FOUR-YEAR RETROSPECTIVE PROFILING OF THE UNKNOWN/UNCLAIMED AUTOPSY CASES

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ABSTRACT

Objective: The aim and objectives of the present study are profiling the unknown/unclaimed dead bodies.

Methods: The study conducted was a retrospective analysis spanning 4 years, examining all unknown or unclaimed autopsies performed at the mortuary of the Department of Forensic Medicine and Toxicology in Government Medical College, Amritsar, Punjab, India, covering the period from January 1, 2020, to December 31, 2023.

Results: The overall cases of unknown/unclaimed deaths reported in 4 years were 243 (18.2%) of the total autopsy cases conducted. The majority of the unknown autopsy cases were males. A significant proportion of cases, 101 (41.6%), were attributed to natural disease processes, followed by rail/road traffic injuries in 24 (9.9%) cases. Poisoning accounted for 10 (4.1%) deaths, while drowning resulted in 9 (3.7%) cases. The cause of death remained undetermined in 17 (7%) cases. However, in 81 (33.3%) cases, pending viscera reports delayed the declaration of the cause of death.

Conclusion: The government must make earnest endeavors to ensure food and shelter for all citizens, thus alleviating the incidence of such deaths. Implementing efficient and expedited identification methods, in conjunction with coordinated efforts among law enforcement agencies, is imperative to establish the identities of individuals in such circumstances. This undertaking holds significance not only for statistical purposes but also for the overall well-being and dignity of the populace.

Keywords: Unidentified, Unknown Dead bodies, Autopsy profiling, Identification.

INTRODUCTION

Identification of individuals or deceased persons involves establishing their unique characteristics, which can be complete or partial. Complete identification confirms an individual's identity conclusively, while partial identification involves determining certain characteristics, such as race, sex, age, or stature. This process is crucial in civil and criminal investigations, including cases of disputed facts, insurance claims, inheritance disputes, and criminal offenses such as assault, rape, and murder [1].

Visual identification is often unreliable, prompting the necessity for noting and detailing two key identification marks in all certificates, whether for the living or deceased. These marks, such as moles, should encompass specifics, such as location relative to anatomical landmarks, size, color, and unique characteristics. In cases where no distinct mark exists, males' left thumb impressions and females' right thumb impressions are recommended [2].

Identification involves establishing a person's individuality through physical traits, such as sex, age, scars, and fingerprints. It is essential in civil and criminal contexts, from mundane tasks, such as enrolling in school or opening a bank account to more severe matters, such as forensic analysis. This process of confirming identity applies to both the living and the deceased [3].

An unknown body refers to a deceased individual lacking a legal representative or next of kin to arrange final disposition. Identification, essential for legal purposes, applies to living and deceased persons. Forensic experts, alongside investigative agencies, are pivotal in this process and crucial for law enforcement and revenue authorities [4]. The UIDAI, established by the Indian government under the Aadhaar Act 2016, assigns a unique 12-digit identification number (Aadhaar) to all Indian residents linked to biometric data. Aadhaar, containing demographic and biometric information, serves as a digital identity, aiding in identification when supported by appropriate technology for Police and autopsy personnel [5].

Aims and objective

The aim and objectives of the present study are the profiling of unknown/unclaimed dead bodies, including the cause of death, whether natural or unnatural. The objective was to observe the overall pattern of the unknown/unclaimed autopsy cases in this region of the state.

METHODS

The study conducted was a retrospective analysis spanning 4 years, examining all unknown or unclaimed autopsies performed at the mortuary of the Department of Forensic Medicine and Toxicology in Government Medical College, Amritsar, Punjab, India, covering the period from January 1, 2020, to December 31, 2023. The analysis involved reviewing postmortem reports and case histories to identify, describe, and document any external or internal injuries, abnormalities, or diseases. Data collection involved gathering information from multiple sources. This included obtaining the inquest report, reviewing the previous history of the case, and examining medical documents detailing the time and date of death declaration at the hospital's emergency department. During the autopsy, particular attention was paid to whether the findings aligned with the presumed cause of death. Both external and internal findings were thoroughly assessed for correlation. The data were collected, analyzed, and subjected to statistical analysis using the Statistical Package for the Social Sciences and the observations were calculated.

Inclusion criteria

1. All cases were registered as unknown bodies by the police.

Exclusion criteria
1. Fully skeletonized bones
2. Unknown fetal deaths.

RESULTS AND DISCUSSION

In the present study, the majority of unknown deaths 70 (18.7%) were reported in the year 2020 while the least was reported, 55 (15.7%) in the year 2023. The majority of the unknown autopsy cases were males. The overall cases of unknown/unclaimed deaths reported in 4 years were 243 (18.2%) of the total autopsy cases conducted (Table 1).

In the present study, the majority of the unknown dead bodies, 208 (85.6%) were males, while 35 (14.4%) were females. The majority of the unknown dead bodies, 100 (41.2%) were of age group 70–79 years, followed by 40–49, which had 68 (28%) cases. The least number 01 (0.4%) cases were from the age group 10–19 years (Table 2).

In the present study, a significant proportion of cases, 101 (41.6%), was attributed to natural disease processes, followed by rail/road traffic injuries in 24 (9.9%) cases. Poisoning accounted for 10 (4.1%) deaths, while drowning resulted in 9 (3.7%) cases. The cause of death remained undetermined in 17 (7%) cases. However, in 81 (33.3%) cases, pending viscera reports delayed the declaration of the cause of death (Table 3).

In the present study, the majority of 218 (89.7%) cases were brought for postmortem examination 3–5 days after the death, while 22 (9.1%) cases had time since the death of 5–7 days. Only one (0.4%) case of unknown death had a time since death of more than 14 days (Table 4).

In the present study, the majority of unknown deaths 70 (18.7%) were reported in the year 2020, while the least were reported 55 (15.7%) in the year 2023. The overall cases of unknown/unclaimed deaths reported in 4 years were 243 (18.2%) of the total autopsy cases conducted (Table 1). Similar findings were observed in the study conducted by Cattaneo *et al.* [6], which observed that 3.1% of autopsies were unidentified while in a study conducted by Paulozzi *et al.* [7], which observed that 413 unidentified persons died each year. The present study can be compared with study conducted by Chikhalkar *et al.* [8] where the 7.6% autopsies were unidentified and Singh *et al.* where 8.9% of cases were observed as unidentified. The substantial proportion of unidentified cases can be attributed to the presence of a significant homeless population inhabiting the city streets.

In the present study, males constituted 85.6% while females were 14.4%. Similar findings were observed in Singh *et al.* [9], Chikhalkar *et al.* [8], Kumar *et al.* [10], Gitanjali [11], Andreev *et al.* [12], Kumar *et al.* [13], Altun *et al.* [14], Cheung and Hwang [15], and Chattopadhyay *et al.* [16]. The prevailing patriarchal structure in India constrains women to the domestic sphere, rendering their absence more conspicuous compared to men, who are often mobile in search of employment opportunities to support their families. This mobility, particularly common among daily wage laborers, may lead to their demise in unfamiliar locations, resulting in their bodies being classified as "unidentified" upon arrival at the morgue, necessitating legal procedures including postmortem examinations.

In the present study, 101 (41.6%) cases died due to natural disease processes followed by rail/road traffic injury in 24 (9.9%) cases. 10 (4.1%) cases died as a result of poisoning, while 09 (3.7%) cases died due to drowning. In 17 (7%) cases, the cause of death was unascertained while in 81 (33.3%) cases, the viscera reports were still pending, due to which the cause of death was yet to be declared.

Singh *et al.* [17] found that road traffic and rail accidents were the leading cause of death, accounting for 21.77% of cases. Strangulation accounted for 10.48% of cases (13 cases), while electrocution and gunshot wounds were responsible for 1.6% (2 cases) and 0.8% (1 case)

Table 1: Year-wise and sex-wise distribution of unclaimed/ unknowns among total autopsies conducted

Year	Total autopsies conducted	Unknown deaths		
		Males (% age)	Females (%age)	Total (% age)
2020	374	62 (16.6)	08 (2.1)	70 (18.7)
2021	316	51 (16.1)	10 (3.1)	61 (19.2)
2022	298	45 (15.1)	12 (4)	57 (19.1)
2023	349	50 (14.3)	05 (1.4)	55 (15.7)
Total	1337	208 (15.6)	35 (2.6%)	243 (18.2)

Table 2: Distribution of alleged age and sex-wise distribution of unclaimed/unknown deaths

Age (years)	Male		Female		Total
	Number	%age	Number	%age	
10–19	01	0.4	00	00	01 (0.4)
20–29	02	0.8	00	00	02 (0.8)
30–39	28	11.5	00	00	28 (11.5)
40–49	67	27.6	01	0.4	68 (28)
50–59	22	9.1	12	4.9	34 (14)
60–69	06	2.5	01	0.4	07 (2.9)
70–79	81	33.3	19	7.9	100 (41.2)
≥80	01	0.4	02	0.8	03 (1.2)
Total	208	85.6	35	14.4	243 (100)

Table 3: Distribution of postmortem cases on the basis of final cause of death

Cause of death	Number	%age
Road/rail traffic injury	24	9.9
Natural disease	101	41.6
Injury/firearm/assault	01	0.4
Drowning	09	3.7
Poisoning	10	4.1
Viscera report pending	81	33.3
Unascertained	17	7.0
Total	243	100

Table 4: Distribution of postmortem cases on the basis of time between death and postmortem

Time since death	Number	%age
3–5 days	218	89.7
5–7 days	22	9.1
7–14 days	02	0.8
>14 days	01	0.4
Total	243	100

of deaths, respectively. Drowning was identified as the cause of death in 20.96% (26 cases) of instances, while poisoning and unknown causes each accounted for 4.03% (5 cases). In another investigation by Kumar *et al.*, [10] it was noted that viscera analysis was conducted in 60% of cases. The remaining 40% of cases had evident causes of death, including craniocerebral damage (30%), hemorrhage and shock (8%), and hanging (3%). Among the 36 cases where viscera analysis was performed, reports were not received in approximately 47% of cases. Chikhalkar *et al.* [8] observed that opinions were withheld in nine cases due to unavailable analysis. Natural causes accounted for 25 cases, with pulmonary tuberculosis being the leading cause in 20 instances, followed by hepatobiliary system damage (9 cases). Central nervous system causes contributed to seven deaths, while cardiovascular system damage and kidney-related causes were responsible for four and two deaths, respectively. In Kumar *et al.*'s [10] study, it was observed that

viscera analysis was conducted in 60% of cases. In the remaining 40% of cases, the cause of death was evident, including craniocerebral damage (30%), hemorrhage and shock (8%), and hanging (3%). Of the 36 cases where viscera analysis was conducted, reports were not received in about 47% of cases at the time of paper finalization. Gitanjali [11] reported on the analysis of the time elapsed between the arrival of the body at the mortuary and the commencement of the autopsy. Their findings revealed that the majority of cases, comprising 37.94% (118 cases), underwent postmortem examination within 3–7 days. In addition, 29.26% (91 cases) of autopsies were conducted between 8 and 14 days, followed by 22.83% (71 cases) between 15 and 21 days. Moreover, 7.40% (23 cases) of postmortems were initiated between 22 and 31 days, while 1.93% (6 cases) and 0.64% (2 cases) occurred between 1 and 2 months and after >2 months, respectively. The longest interval recorded was 73 days.

The substantial proportion of cases with delayed reports underscores the prolonged processing time within the laboratories involved. This delay has become customary within our current medicolegal framework, often resulting in reports taking several years to reach the autopsy surgeon. Furthermore, upon receipt, the reports may lack conclusive findings in a significant number of cases, thereby complicating the task of providing a definitive opinion regarding the cause of death.

CONCLUSION

Numerous time-consuming legal formalities, including a mandatory waiting period of approximately 72 h and the publication of the deceased's photographs and details in prominent newspapers, are essential procedures dictated by law. Furthermore, there is a necessity for collaborative data gathering from multiple agencies across the country. Forensic medicine specialists play a pivotal role in providing comprehensive data derived from meticulous body examination and dissection. Their responsibility extends to offering expert opinions on death's cause, manner, and nature, drawing from their findings and reports obtained from various laboratories. This underscores the critical importance of their skill and expertise in this process.

In numerous cases, the delay in obtaining viscera reports can be attributed to technical formalities. This delay could be addressed by implementing a web-based interactive tracking application to monitor unknown or unclaimed bodies across various agencies. In addition, fostering intersectoral coordination between law enforcement agencies and the Forensic Medicine Department is crucial for streamlining the process and expediting the retrieval of necessary reports. Such measures would facilitate more efficient handling of forensic procedures and contribute to the timely resolution of cases.

The government must make earnest endeavors to ensure food and shelter for all citizens, thus alleviating the incidence of such deaths. Implementing efficient and expedited identification methods, in conjunction with coordinated efforts among law enforcement agencies, is imperative to establish the identities of individuals in such circumstances. This undertaking holds significance not only for statistical purposes but also for the overall well-being and dignity of the populace.

AUTHORS CONTRIBUTION

Dr. Jaspinder Pratap Singh: Literature search, data collection applying statistics, Dr. Sunny Basra: Rechecking data and validation and helping in preparing the manuscript.

CONFLICTS OF INTERESTS

None.

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