

A Cross-Sectional Study on Age-Related Changes in Knowledge and Perception of Medico-Legal Autopsies

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Abstract

Our study investigated the knowledge, attitudes, and perceptions of medical students, residents, and the general public towards medicolegal autopsies in Northern region, India, in the year 2023. Significant disparities were identified in knowledge perspectives, influenced by age. Younger adults, particularly those falling in the age group of 20-29 years showed higher levels of knowledge (35.33%) about autopsies as compared to the older adults falling in the age group of 60 and above showed lower levels of knowledge (100%). Overall, 802 participants (72.6%) had a negative perception in regards to medicolegal autopsy while 302 participants (27.4%) had a positive perception towards medico legal autopsy. This research study highlights the varying levels of knowledge and perception towards medicolegal autopsies among different age groups, emphasizing the need for targeted educational strategies to bridge the knowledge gaps and calls for collaborative efforts among stakeholders to build public trust, advance forensic medicine practices, and improve public health outcomes.

Keywords: Autopsy, Communication, Death, Knowledge, Perception.

Introduction

Autopsy is derived from a Greek word “Autos” which means oneself and “Opsis” which implies sight and the word together denotes “to see for oneself”. Autopsy aims at establishing the identity in case of unknown bodies, determining the time since death, and aids in reaching towards the cause of death. It helps in understanding the manner of death

whether natural or unnatural (homicidal, accidental, or suicidal.^[1] Whenever a medical practitioner is acting as an expert witness in the court of law, he should possess a fair knowledge of all the branches of medical sciences. Global trends of medicolegal issues are gradually on the rising numbers and are gaining the attention of the general public. Likewise, many complaints which are being lodged against the physicians are also on the rise in the developing

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countries.^[2] The autopsy is divided into various types namely, forensic or medicolegal autopsy, pathological autopsy, and clinical autopsy.^[3] In India, a medico-legal autopsy is conducted by a qualified registered medical person which includes medical officers. There exist multiple myths and misapprehensions amongst the common people regarding the importance and procedure of medicolegal autopsy. The people concerned with the conduction of medicolegal autopsy which includes police personnel and medical officers have an inherent duty of explaining the various queries regarding medicolegal autopsy to the family members of the deceased. Medical professionals should know what a layperson thinks of and their reaction to their exposure to autopsy protocol. The attitude of the public to be positive will largely depend upon how well the details and procedure of the autopsy are being told.^[4]

This study is timely and necessary, as it provides critical insights into how knowledge and perceptions regarding medico-legal autopsies change with age. It also contributes to the sparse research available on this topic in India, highlighting the need for targeted public education to overcome myths and misconceptions. By identifying age-related gaps in knowledge and perception, the study can guide future educational strategies and policies, improving public trust in forensic medicine and supporting better legal and health outcomes.

Materials and Methods

This cross-sectional anonymous knowledge and perception questionnaire-based study was conducted at our medical college which investigated the knowledge and perceptions of public towards medico legal autopsies. The questionnaire consisted of:

- Age
- Knowledge Assessment: Multiple-choice questions assessing participants' knowledge related to medico legal autopsy.
- Perception: Multiple choice questions to gauge participants' perceptions and confidence regarding medico legal autopsy.

Utilizing a validated questionnaire, the sample size of the study was 1104 participants of different age groups. Data was analyzed using statistical methods to provide insights into these disparities and formulated in the form of tables so that it can be compared with studies conducted in the other parts of the world.

The sample size was selected to ensure a diverse representation of medical students, residents, and the general public from Northern India, allowing for meaningful age-based comparisons. Participants were sourced through random sampling. The questionnaire tested knowledge, attitudes, and perceptions of medico-legal autopsies, referencing similar studies but without conducting a pilot.

Results & Discussion

In this study a self-structured validated anonymous questionnaire with 30 questions related to medicolegal autopsy in knowledge and perception domains was distributed to the participants of the research study who have given informed consent to participate in the study.

Table 1: Showing age wise distribution of the study population.

Age Group	No. of participants	%
20-29 Years	917	83.06%
30-39 Years	74	6.70%
40-49 Years	80	7.25%
50-59 Years	25	2.26%
≥60 Years	8	0.72%
Total	1104	100%

Knowledge towards Medico legal Autopsy

Table 2 represents the comprehensive comparison of the study population based on their age with the level of knowledge which they possess towards medicolegal autopsy. As depicted by the data in the table, the age group of 20-29 years shows the highest score of knowledge with a percentage level of 35.33% and 324 individuals falling in this category. While the age group of = or > 60 years age group are the highest among the individuals having a lower score of knowledge towards medico legal autopsy.

Table 2: Comparison of age groups in years of the study population with their level of knowledge towards medico legal autopsy.

Age Group(Years)	Knowledge				Total	%	Fisher's Exact	p value
	Low (N=743)		High (N=361)					
	N	%	N	%				
20-29 Years	593	64.67%	324	35.33%	917	83.06%	32.090	0.001
30-39 Years	51	68.92%	23	31.08%	74	6.70%		
40-49 Years	73	91.25%	7	8.75%	80	7.25%		
50-59 Years	18	72%	7	28%	25	2.26%		
≥60 Years	8	100%	0	0%	8	0.72%		
Total	743	67.30%	361	32.70%	1104	100%		

Age appeared to influence participants' knowledge of medico legal autopsy procedures in this study. Younger participants, such as undergraduate medical students and postgraduates, demonstrated higher familiarity with the process compared to older individuals, possibly due to recent exposure to academic curricula and clinical settings.

The studies conducted in Eastern Province, Saudi Arabia (West Asia) [5] Edo, Benin (West Africa) [6], Cotonou, Benin (West Africa) [7], Ile-Ife, Nigeria

(Africa) [8], Awolowo University, Nigeria (Africa) [9], Assam, India (Asia) [1], Chitradurga, Karnataka, India (Asia) [10], Malaysia (South-east Asia) [11], Nepal (South Asia) [12], Stockholm, Sweden (Northern Europe) [13], Cambridge, United Kingdom (North West Europe) [14], While it is higher in 30 - 40 years age group in a study conducted at Imphal, Manipur, India (Asia) [15]. These interventions suggest tailored educational strategies to address age-related disparities in knowledge acquisition and retention.

Study	Study Year	Age group with high level of knowledge (in years)	Age group with low level of knowledge (in years)
Present study	2023	20 - 29	= or > 60
Eastern Province, Saudi Arabia (West Asia) [5]	2015	21 - 30	30 - 40 +
Edo, Benin (West Africa) [6]	2019	19 - 25	40 - 60
Cotonou, Benin (West Africa) [7]	2022	17 - 24	35 - 64
Ile- Ife, Nigeria (Africa) [8]	2019	22 - 35	40 - 65
Awolowo University, Nigeria (Africa) [9]	2020	25 - 35	36 - 49
Assam, India (Asia) [1]	2022	20 - 30	40 - 60
Imphal, Manipur, India (Asia) [15]	2023	30 - 40	50 - 60
Chitradurga, Karnataka, India (Asia) [10]	2013	20 - 30	31 - 50 +
Malaysia (South-east Asia) [11]	2016	18 - 25	30 - 40+
Nepal (South Asia) [22]	2018	20 - 30	31 - 50
Stockholm, Sweden (Northern Europe) [13]	2016	20 - 30	31 - 50+
Cambridge, United Kingdom (North West Europe) [14]	2015	20 - 30	31 - 40 +

Perception towards Medico legal Autopsy

Table 3 illustrates the comparative analysis of the age of the study participants with their level of perception towards medicolegal autopsy. The tabular representation demonstrates the significant

association between the age in years of the study participants with their level of perception, which is either positive or negative in the respective study, towards medico legal autopsy.

Table 4: Comparison of age in years of the study population with their perception towards medico legal autopsy.

Age Group (Years)	Perception				Total	%	Fisher's Exact	p value
	Negative (N=802)		Positive (N=302)					
	N	%	N	83.06 ⁰ %				
20-29 Years	649	70.78%	268	6.70%	917	83.06%	15.316	0.004
30-39 Years	55	74.32%	19	7.25%	74	6.70%		
40-49 Years	71	88.75%	9	2.26%	80	7.25%		
50-59 Years	19	76%	6	0.72%	25	2.26%		
≥60 Years	8	100%	0	100%	8	0.72%		
Total	802	72.64%	302	27.36%	1104	100%		

The general public's understanding varied widely across age groups, with younger respondents showing greater interest and awareness compared to older individuals, who might rely more on traditional beliefs or limited exposure to medical information. The findings indicate that younger participants, typically aged 20 to 30 years, generally hold positive perceptions of medico legal autopsy in most studies, including those from Stockholm^[13], Cambridge^[14], Nepal^[12], Chitradurga^[10] and Malaysia^[11]. In contrast, older age groups tend to exhibit negative perceptions, with notable variations across studies.

For instance, the Present Study and the Malaysian^[11] study highlight a significant negative perception among individuals aged 60 years and above, while the Imphal^[15], India study identifies a negative perception among younger adults (18-34 years). Additionally, the Awolowo University study reveals a negative perception among those aged 35 to 49 years. Table 5 : patterns suggest a regional and age-related variability in perceptions, reflecting how age and possibly cultural context influence attitudes towards medico legal autopsy.

Table 5: The table provides a comparative overview of how different age groups perceive medico legal autopsy across various studies conducted in different regions over the years.

Study	Study Year	Age group with positive perception (in years)	Age group with negative perception (in years)
Present study	2023	20 - 29	= or > 60
Awolowo University, Nigeria (Africa) ^[9]	2020	25 - 34	35 - 49
Imphal, Manipur, India (Asia) ^[15]	2023	34 - 60	18-34
Malaysia (South-east Asia) ^[11]	2016	18 - 25	30 - 40+
Nepal (South Asia) ^[12]	2018	20 - 30	31 - 50
Stockholm, Sweden (Northern Europe) ^[13]	2016	20 - 30	31 - 50+
Cambridge, United Kingdom (North West Europe) ^[14]	2015	20 - 30	31 - 40 +
Chitradurga, Karnataka, India (Asia) ^[10]	2013	20 - 30	31 - 50+

Conclusion

In conclusion, the comparative analysis of public knowledge and perception towards medico-legal autopsies reveals distinct differences, particularly between younger and older individuals. The general public's perception is often shaped by limited exposure and misinformation, especially among aged individuals, where misconceptions are prevalent. Media depictions of autopsies frequently exaggerate or misrepresent their purpose and procedures, further misleading the public and fostering negative views. This study underscores the need for educational initiatives and transparent communication to correct these misconceptions, fostering a better understanding of the critical role autopsies play in healthcare and the legal system. For forensic experts, the findings are invaluable as they highlight public knowledge gaps, enabling targeted outreach efforts. By addressing these disparities, forensic professionals can build trust, improve collaboration with families and communities, and ultimately enhance the quality of medico-legal investigations.

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