

Public Awareness and Perceptions of Medicolegal Autopsies in Kerala

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How to cite this article: Boban Babu, Alex M Varghese, Ajin Joseph. Public Awareness and Perceptions of Medicolegal Autopsies in Kerala. *Medico Legal Update* / Vol. 25 No. 1, January-March 2025.

Abstract

Background: Death is often met with fear, rooted in the unknown, and many cultures maintain beliefs in life after death, souls, and ghosts. These beliefs shape rituals to honor the departed. However, unnatural deaths requiring autopsies can intensify challenges, especially in superstition-heavy societies. Even in Kerala, with its 100% literacy rate, such beliefs persist. This study examines public awareness, perceptions, and attitudes toward medicolegal autopsies, exploring how education, superstition, and medical practices intersect in shaping societal responses.

Aim: To study the general public's awareness in Kerala regarding various aspects of medicolegal autopsies, including the purpose, process, legal implications, and societal perceptions of such investigations.

Materials and Methods: A cross-sectional study was conducted using face to face interviews and questionnaire that was carefully prepared and distributed randomly among the general public across different regions of Kerala. The responses from study population, were collected for analysis. The responses were thoroughly examined, and conclusions were drawn based on the data gathered, providing insights into the public's awareness and perceptions of medicolegal autopsies in the state.

Results: The study conducted in Kerala revealed that most laypeople were aware of medicolegal autopsies, with 92% demonstrating a good understanding. However, 6% partially accepted the procedure's feasibility, 1.25% opposed it due to personal or cultural beliefs, and 0.75% were unfamiliar with the concept. Among those opposing autopsies, 27% cited religious reasons, 18% feared disfigurement, and 3% considered it ethically wrong. While basic awareness exists, comprehensive knowledge about the purpose, legal implications, procedures, and significance of medicolegal autopsies is limited. Misconceptions or incomplete information about when and why autopsies are conducted were common. The findings highlight the need for educational initiatives to enhance public understanding of the vital role of medicolegal autopsies in forensic and legal contexts.

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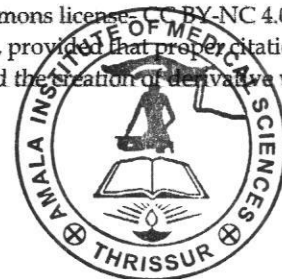
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Submission date: Nov 28, 2024

Revision date: Jan 15, 2024

Published date: Jan, 20 2025

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Conclusion: The study highlights strong support for autopsies but reveals significant public knowledge gaps. Addressing misconceptions through education and collaboration can improve understanding and acceptance, promoting informed consent for medical and legal purposes.

Keywords: awareness, autopsy, public opinion, healthcare system, attitude

Introduction

Medico-legal autopsies are vital in forensic science, helping determine the cause of death in suspicious, unnatural, or unexplained cases. Conducted by forensic experts, these autopsies provide crucial evidence for legal investigations and support both public health and medical advancements. They are essential for establishing the cause and manner of death (e.g., accidental, natural, suicidal, or homicidal) and can uncover hidden medical conditions, diseases, or criminal activities, such as poisoning or trauma¹³. An autopsy is also crucial for exonerating wrongly accused individuals in cases of sudden or suspicious natural deaths¹⁴. According to the World Health Organization (WHO), medico-legal autopsies are critical for understanding public health issues, ensuring accurate death records, and aiding in policy formulation¹².

In India, especially in Kerala, medico-legal autopsies play an important role in criminal investigations, particularly in cases of unnatural deaths. However, public awareness of autopsies remains low, with misconceptions and cultural reluctance influencing the population's views. Concerns about body disfigurement, organ theft, and limited understanding of legal processes often discourage the public from supporting autopsy procedures.

This study focuses on understanding the perceptions of the general public in Kerala, particularly those with limited education. Through a survey of 400 individuals, the research aims to uncover the public's views on the importance of autopsies, the concerns or misconceptions surrounding them, and the level of awareness about legal and procedural aspects. The results will help identify knowledge gaps and inform public awareness campaigns, improving understanding and acceptance of medico-legal autopsies. These insights will assist forensic experts, healthcare professionals, legal authorities, and policymakers in promoting the benefits of autopsies as a key element of public health, justice, and medical science.

Materials and Methods

A cross sectional study was designed to assess the knowledge and perception of public towards medical legal autopsy. General public not belonging to medical and legal fields were selected with an age more than 18 years. The questions were based on previously published studies^[9,10] and modified in the context of Kerala. The questionnaire was originally prepared in English Language and was translated to Malayalam language to collect the responses.

Study was conducted on 400 people whose educational qualification were below 12th std. This group was selected as the study aims at knowing perception of lay people with little exposure and knowledge to these type of medicolegal procedures. Informed consent was taken from the participants. Sample size was selected based on statistical power, significance level and expected effect size by doing power analysis. Most of people needed assistance to interpret and understand the questions. Their answers were recorded with care and analysed. The data was entered in Microsoft™ Excel and analysis done by Statistical Package for the Social Sciences (SPSS™) version 16. Descriptive statistics was used to analyse the results.

Analysis and Results:

A large majority, 92%, of the study population expressed that they believe autopsies are essential for understanding the causes of unnatural or unexpected deaths, underlining the procedure's perceived importance for public health and justice. Another 6% partially agreed with this view, showing some level of support. However, 1.25% were opposed to autopsy procedures, often due to personal or cultural beliefs, and 0.75% of participants were either unfamiliar with the process or chose not to share their opinion. Among those who completely or partially opposed autopsies, 8 people (27%) cited religious reasons, 18 were concerned about disfigurement of the body, and 3 felt it was ethically wrong to perform



A significant 94% of participants were unaware that, besides conventional autopsies, other types such as clinical, pathological, and psychological autopsies also exist. These terms were unfamiliar to them, though 5% mentioned having encountered them in movies or other media, without understanding their meaning. Only 1% of the study population showed complete awareness of these alternative autopsy procedures, highlighting a considerable gap in public knowledge regarding forensic and medical investigations.

Although the majority of respondents acknowledged the importance of autopsy procedures, 87.25% of the study population harbour the misconception that autopsies will significantly mutilate or disfigure the body. A smaller portion, 8%, believe that while there may be some alterations, the impact is not as extreme. Interestingly, a rare 2% even think that autopsies could improve the body's appearance, perhaps viewing the process as a form of restoration rather than harm. 2.75 percent of individuals did not express an opinion or respond to the question.

Among the study population, 9 percent strongly believe that organs can be illegally removed during autopsy procedures, potentially for purposes like transplantation or sale. An additional 17 percent hold partial concerns about the possibility of illegal organ removal. However, the majority, at 70 percent, do not share this belief and dismiss such concerns. Meanwhile, a small segment—4 percent—expressed uncertainty, either unaware of such a possibility or refraining.

Only 12% of respondents accurately understood the term 'negative autopsy' to mean a situation in which the cause of death remains unknown even after a thorough autopsy, including pathological studies, chemical examinations, and detailed forensic lab tests. Another 8% partially agreed with this definition, suggesting some familiarity but uncertainty. In contrast, 6% completely disagreed with this interpretation, and their responses appeared largely speculative or based on misunderstandings. A significant portion mistakenly interpreted the term to mean an incorrectly performed autopsy, while others believed it referred to an autopsy report that had been rejected by the court. Overall, for 74% of the

study participants, the term 'negative autopsy' was entirely unfamiliar, and their responses typically fell under 'don't know' or 'no opinion' due to a lack of awareness.

When surveyed about whether body preservation methods such as embalming could be performed on bodies that had undergone autopsy, responses varied. A total of 23% of respondents completely agreed that embalming could be done, and 20% partially agreed that it was possible. In contrast, 6% believed that embalming would not be feasible for autopsied bodies. Notably, a majority of 51% expressed uncertainty, indicating they were unfamiliar with the possibilities or limitations of embalming in such cases."

When respondents were asked about the maximum timeframe within which an autopsy should be conducted after death, a majority—58%—felt it should occur within 24 hours to ensure accurate results and avoid potential degradation of vital forensic information. Another 30% believed a longer period, up to one week, would still allow for effective post-mortem analysis. Only 8% of participants felt that there was no strict time limit, suggesting that an autopsy could provide valuable insights even after a prolonged period. Meanwhile, 4% of those surveyed were uncertain and did not offer an estimate for an appropriate timeframe

According to the survey, 47% of participants firmly believe that obtaining consent from a family member or guardian is necessary to conduct an autopsy, and an additional 4% partially agree with this view. However, only 24% of respondents were aware that family consent is not legally required in these cases. The remaining 25% of participants either had no knowledge of the requirement or held no opinion on whether family or guardian consent should be needed for autopsies.

Ten percent of respondents were completely unaware that an autopsy report can be obtained by submitting a written request from a close relative of the deceased to the relevant authority or autopsy surgeon. Only 35.2% of the study population was certain that this provision exists and understood the procedure, while another 38% partially agreed with the idea, indicating some knowledge of the process.



Additionally, 8% of participants either did not respond to the question or indicated that they were unsure about how to obtain an autopsy report. These results highlight a significant gap in public awareness about this important procedure for gaining access to postmortem examination reports.

Survey results revealed varied opinions on the role of an autopsy report in murder cases. 79 of respondents fully agreed that an autopsy report alone is insufficient as evidence to clear or convict a suspect,

emphasizing that additional evidence is critical for a fair judgment. Sixteen percent partially agreed, seeing it as an important but not sole factor in decision-making. In contrast, one percent of participants viewed the autopsy report as the ultimate document for legal conviction, without need for other evidence. Lastly, four percent of respondents were unsure or lacked sufficient knowledge to form an opinion

The results are tabulated in Table 1.

Table 1: Knowledge of respondents on medico-legal autopsy Variables- Frequency and Percentage

1	Autopsy examination of human body is a necessary procedure in unnatural / unexpected deaths	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/ Donot know
		Frequency	368	24	5	3
		Percentage	92	6	1.25	0.75
2	If you disagree with the necessity of autopsy, state the reasons	Responses	Religious factors	Possibilities of disfiguration of body	It is unethical	No Opinion/ Donot know
		Frequency	8	18	3	0
		Percentage	27.58	62.06	10.34	0
3	Other than conventional autopsy there are other autopsy procedures like clinical autopsy, pathological, psychological autopsy.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/ Donot know
		Frequency	4	20	376	0
		Percentage	1	5	94	0
4	Body will be mutilated/ disfigured by the processes of autopsy	Responses	Completely agree	Partially agree	Completely disagree, cosmetically better	No Opinion/ Donot know
		Frequency	349	32	8	11
		Percentage	87.25	8	2	2.75
5	Consent of family/ guardian is necessary to perform the autopsy.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/ Donot know
		Frequency	188	16	96	100
		Percentage	47	4	24	25
6	The organs in the body can be illegally removed during autopsy procedures for transplantation.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/ Donot know
		Frequency	36	68	280	16
		Percentage	9	17	70	4
7	Body Preservation methods like embalming cannot be performed in autopsied bodies.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/ Donot know
		Frequency	92	80	24	204
		Percentage	23	20		51



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8	Apart from autopsy examination, pathological study, chemical examination & forensic lab report are also necessary to conclude the cause of death in most of the cases.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/Donot know
		Frequency	168	88	32	112
		Percentage	42	22	8	28
9	Negative autopsy is something in which cause of death is unknown even after autopsy examination, pathological study, chemical examination & forensic laboratory tests.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/Donot know
		Frequency	48	32	24	296
		Percentage	12	8	6	74
10	The autopsy report can be obtained by written request of close relative of the deceased to the concerned authority/ police surgeon.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/Donot know
		Frequency	176	152	40	32
		Percentage	35.2	38	10	8
11	Autopsy report is not an ultimate document/ evidence in acquitting criminal charges in murder cases.	Responses	Completely agree	Partially agree	Completely disagree	No Opinion/Donot know
		Frequency	316	64	4	16
		Percentage	79	16	1	4
12	The maximum time within which autopsy can be performed after death.	Responses	Within 24 hours	Within one week	No time limit	Do not Know
		Frequency	232	120	32	16
		Percentage	58	30	8	4

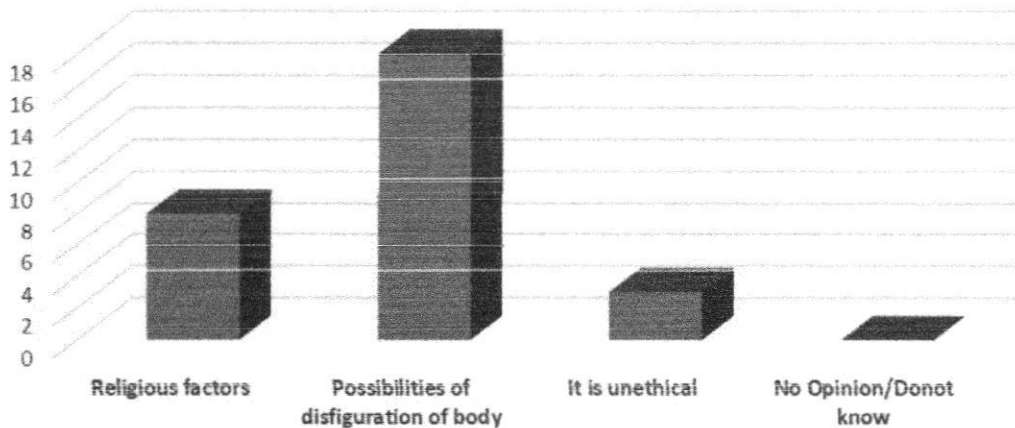


Figure 1

Discussion

In spite of its significant legal benefits and role in health care systems, autopsy rates have been

fluctuating in Kerala. The reasons for this include a decreasing interest from families of the deceased, as well as from hospital administrators and accreditors. Clarity about the cause of death is important, as is



reassurance that families need not worry about negative consequences for surviving members.

We found that most people did not have adequate knowledge about autopsies and had never counselled anyone on the topic. In this study, the primary reason cited for refusing consent for autopsy was concern over the mutilation of the body. Religious beliefs and superstitions played a minor role, while fear of organ theft was another significant concern.

The proportion of participants in this study who refused consent due to concerns about body mutilation is similar to findings from a study in Zambia⁶. Parents/guardians of 891 of 1181 children (75.4%) refused to give permission, and 290 (24.6%) consented. Of those who refused, 43% did so on the grounds that it would be a "waste of time," as the diagnosis should have been made in life and the findings would now be of no benefit to them. More than one quarter of those who refused did so because a death certificate had already been issued and arrangements to transport the body had been made and could not be delayed. Traditional beliefs that ancestral spirits forbade the mutilation of dead bodies were cited by 77 (8.6%). Other reasons included the child not being their own or that they must seek permission from other family members who were not available (6%). Religious beliefs were not a major cause of refusal⁶. Studies with relatives of the deceased in Nepal⁹ and Sweden⁸ also found similar sentiments, suggesting that such concerns about autopsies are shared across cultures and races. Furthermore, it is often the layperson's perception of the autopsy process that contributes to reluctance. Involving the patient's close relatives in autopsy procedures improves the transparency of the same enabling a better acceptance of the same. This may bring a change in people's perception towards the concept of autopsy.

Socio-cultural and religious taboos around autopsies could be gradually reduced through educational programs and campaigns that raise public awareness about the value of autopsies. Religious objections to autopsies, often stemming from beliefs like the deceased needing to be buried within 24 hours as a mark of respect, influence relatives' decisions. Higher levels of education were associated with increased acceptance of autopsies. Education

may mitigate the influence of religion on attitudes toward autopsies, as seen in the higher proportion of doctors who, despite their religious backgrounds, were willing to consent to autopsies on themselves compared to relatives of deceased patients.

Engagement and active involvement with religious community leaders may also help raise awareness about the public health value of autopsies through better counselling. This could encourage family members to permit a medico-legal autopsy when a death occurs within their community. Additionally, the experience and opinions of relatives could assist an autopsy surgeon in managing medico-legal cases more effectively.

However, significant knowledge gaps emerged in understanding autopsy types and practices. Nearly all participants (94%) were unaware that alternatives to conventional autopsies, such as clinical, pathological, and psychological autopsies, exist. Only 5% had encountered these terms in media but did not fully understand them, and just 1% showed complete awareness of these options. This suggests an overall lack of knowledge regarding forensic processes. Misconceptions about the impact of autopsies on the body are common, with 87.25% of respondents believing autopsies cause significant disfigurement. Meanwhile, 8% thought the impact was moderate, and an unusual 3% even viewed autopsies as potentially enhancing appearance, perhaps perceiving the process as restorative.

Respondents' views varied on whether bodies could be embalmed after autopsies. While 23% agreed embalming was possible, and 20% partially agreed, 6% felt it was not feasible. The majority (51%) expressed uncertainty, highlighting limited understanding of preservation options after autopsy procedures.

Regarding timing, a significant 58% believed autopsies should be performed within 24 hours of death to prevent the loss of vital forensic information, while 30% felt that a timeframe of up to a week would still yield effective results. A smaller portion (8%) saw no strict time limit, believing autopsies could still be useful after extended periods.

There was also considerable confusion about legal consent for autopsies. Almost half of the



respondents (47%) believed that family or guardian consent is legally required to perform an autopsy, with 4% partially agreeing. Only 24% were aware that family consent is not necessary, while the remaining 25% lacked awareness or opinion on the matter. Additionally, 79% were unaware that family members could obtain autopsy reports via written request, though 16% partially understood this provision, and 10% disagreed or were uncertain about the policy.

Lastly, opinions on the role of autopsy reports in criminal cases were divided. While 79% of respondents believed autopsy reports alone are insufficient for legal judgments, 16% thought they could aid but not finalize decisions. Only 1% viewed the autopsy report as conclusive evidence. Concerns about organ removal also surfaced, with 36% fearing organs could be illegally taken during autopsies, although 70% rejected this idea, and 4% were unsure or unaware of such risks. Knowledge about terms like "negative autopsy" was similarly limited; only 12% correctly defined it as a case where the cause of death remains unknown after examination. A further 8% showed partial understanding, while 6% misunderstood it completely, often confusing it with procedural errors or rejected reports. Most participants (76%) were unfamiliar with the term and either held no opinion or misinterpreted its meaning.

The findings of this study reveal that although the majority of laypeople had some awareness of medico-legal autopsies, only a few possessed detailed knowledge. Though autopsies are mandatory in most settings, relatives of the deceased often have a negative attitude toward the procedure, leading to avoidance when possible. This highlights a pressing need to increase public awareness. Healthcare institutions should take all necessary steps to create more awareness programs on medico-legal autopsies within the community. Though legally, formal consent is not required, it is still important to provide thorough explanations to family members before proceeding with an autopsy.⁹

Conclusion

The study reveals a strong, widespread support for autopsies; however, it also highlights significant gaps in the public's understanding of the procedure.

Many individuals lack awareness of key aspects, such as the purpose and process of autopsies, consent requirements, maximum time limit and the legal framework governing these procedures. The major limitations of this study include the difficulty many participants faced in fully understanding the questions, often requiring additional explanations. This challenge likely stemmed from their unfamiliarity with the terminologies used. Addressing this issue in future research could involve simplifying the language or providing clearer definitions to ensure comprehension. Addressing these misconceptions and knowledge gaps is essential to improve public perceptions. By implementing comprehensive awareness campaigns and educational efforts, particularly through collaboration between clinicians, forensic experts, and law enforcement, public understanding can be enhanced. Such efforts would help dispel fear and apprehension surrounding autopsies, leading to greater acceptance. The study may be expanded significantly by incorporating specific professional groups or cultural communities, thereby allowing a more comprehensive inquiry into diverse perspectives, fostering deeper understanding, and exploring broader intellectual and practical horizons. With the right approach, these efforts could foster a societal perspective that views autopsies as routine, valuable procedures, ultimately encouraging more people to consent to them for the benefit of medical and legal insights.

There is no external funding source or conflict of interest in this study.

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