



Original Research Article

Awareness of medico-legal autopsies among population visiting tertiary care hospital of central India: A cross-sectional study

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Abstract

Background: Medico-legal autopsy continues to be under the umbrella of misconceptions, myths and emotions among general people in our country. The acceptance of Majority of the medical fields and services are dependent heavily upon the knowledge and attitude of general population. General population do not consider medical autopsy worthy and frequently have misunderstanding about autopsy leading to confusion and apprehension among them. The present study was carried out to assess the awareness of medico-legal autopsy among the general population.

Materials and Methods: A cross-sectional study was carried out among 393 individuals. They were interviewed with the help of a pretested and semi-structured questionnaire.

Results: The general population was somewhat aware of the processes involved in autopsies and the function of medicolegal autopsies, but most people were ignorant of the fundamentals of medical-legal autopsies.

Conclusion: The purpose of autopsy, a crucial instrument in the administration of justice, needs to be clarified. The spread of awareness in this regard is a necessity for its acceptance among general population.

Keywords: Awareness, Knowledge, Medico-legal autopsy, General population, Central India, Cross-sectional study.

Received: 08-09-2025; **Accepted:** 24-10-2025; **Available Online:** 09-12-2025

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1. Introduction

In the quest to understand and address the complexities surrounding death, medicolegal autopsies play a crucial role. However, this essential practice often remains shrouded in mystery for many. A medicolegal autopsy (MLA) is a crucial tool in forensic medicine, conducted to determine the cause and manner of death in cases of unnatural, suspicious, or sudden deaths. It plays an essential role in the justice system by helping to establish facts in cases involving criminal activity, accidents, or unexplained deaths. Majority of the medical fields are dependent heavily upon the knowledge and attitude of people providing it. The autopsy is beneficial in

determining the cause of death, the time of death, potential medicolegal issues surrounding death, and providing data on disease and injury.¹⁻³

An autopsy should be encouraged regardless of caste, community, and religion upon unnatural, obscure, suspicious deaths. Though MLA is accepted in most advanced countries, it continues to be under the umbrella of misconceptions, myths and emotions by the general people. Despite its importance, awareness and understanding of medicolegal autopsies among the general population remain limited, especially in developing countries.

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Studies have been conducted to assess the knowledge and attitude among medical students and physicians.⁴⁻⁷ Nevertheless, assessing the awareness among the general public is also equally important. The attitude of the general public is influenced by a number of socio-demographic factors such as ethnicity, age, education, religion, psychological etc. Lack of awareness often leads to resistance from the deceased's family, misconceptions about the autopsy process, and delays in legal procedures. Cultural beliefs, religious sentiments, and misinformation contribute to the negative perception of autopsies. This not only hampers the timely administration of justice but also affects public health monitoring and policy development. This necessitates the need for a study focusing on the knowledge and attitude of the general public towards autopsy. It is important to explore the knowledge and attitude of general population towards medico-legal autopsy as it helps the police and doctors to understand the required fields where they have to inform the near relatives of the deceased about the legal requirements and procedure of an autopsy.^{2,3,8-10}

Despite its importance in the justice system and public health, medicolegal autopsies are frequently misunderstood. Common misconceptions about their purpose and process can lead to confusion and apprehension among the general population. Improving general population's awareness about medicolegal autopsies is therefore essential for ensuring cooperation in forensic investigations and upholding justice. In this context, assessing and improving public awareness about medicolegal autopsies is of paramount importance. Additionally, greater awareness can help mitigate conflict between bereaved families and authorities, reduce delays in forensic proceedings, and promote greater transparency in the medicolegal process. To bridge this gap, it is vital to enhance public awareness and understanding of medicolegal autopsies. With this in mind, the present study was carried out to know the awareness about medico-legal autopsy among the general population.

2. Materials and Methods

2.1. Study design

A cross-sectional study was conducted among patients visiting tertiary care hospital of Central India from May 2024 to October 2024. According to Parmar P et al,¹⁰ the level of good knowledge about autopsy was 41.2% with absolute precision at 5%, the sample size was calculated to be 373 by Open epi sample size calculator. Anticipating 5% non-response the sample size came to be 393 patients. All consecutive people attending the Medicine OPD were selected till the sample size was achieved.

2.2. Ethical considerations

This study was carried out with the approval of the Institutional Ethics Committee. Participant's confidentiality was maintained throughout the research. Before data collection, all participants were fully informed about the

study's purpose and procedures, and informed consent was obtained from each individual. Patients above 18 years of age visiting the Medicine OPD of a tertiary care center and who consented were included in this study. Patients who were seriously ill were excluded from the study.

2.3. Statistical analysis

A cross-sectional study was conducted in Medicine OPD of a tertiary care center. The data was collected in a predesigned and pretested online (Google form) questionnaire by interview technique. The patient's sociodemographic information, awareness, knowledge and objections about medicolegal autopsy was noted in a pre-validated questionnaire by interview technique. The questions were explained in vernacular language to the participants and responses were noted by the investigator. Data was entered in MS Excel and analyzed with Epi-info version 7.2.2. Descriptive statistics of percentages, mean and standard deviation were calculated and appropriate inferential statistics were applied accordingly. p value less than 0.05 was considered significant.

3. Results

A total of 393 patients participated in the study.

Table 1 shows the socio-demographic characteristics of the patients who participated in the study. Most of the patients belonged to rural background (56.49) and were from the 31 – 50 (38.67) years of age-group.

Table 1: Socio-demographic characteristics of participants

Socio-demographic characteristics	Males	Females	Total (%)
Age group			
18 - 30 years	52	79	131(33.33)
31 - 50 years	76	76	152(38.67)
> 50 years	74	36	110(27.98)
Residence			
Urban	88	83	171 (43.51)
Rural	114	108	222 (56.49)
Education level			
Below Matriculation	34	19	53(13.48)
Matriculation	36	53	89 (22.65)
Graduate	113	107	220 (55.98)
Post Graduate	19	12	31(7.89)

When the association between knowledge of medico-legal post-mortem and level of education was seen it was found to be statistically not significant among participants having education above graduation and below graduation.

It was observed that 145 males (71.8%) and 102 females (53.4%) were aware that medico- legal post-mortem examination is mandatory in all unnatural, sudden, unexpected and suspicious death (p value 0.0002). Responses

regarding awareness of objectives of medicolegal autopsy are depicted in **Figure 1**.

Table 2: Association between level of education and knowledge of medico-legal post-mortem

Education	Knowledge of medico-legal post-mortem			Chi-square (p value)
	Yes (%)	No (%)	Total	
Above Graduation	20	11	31	0.04 (0.84)
Below Graduation	227	135	362	
Total	247	146	393	

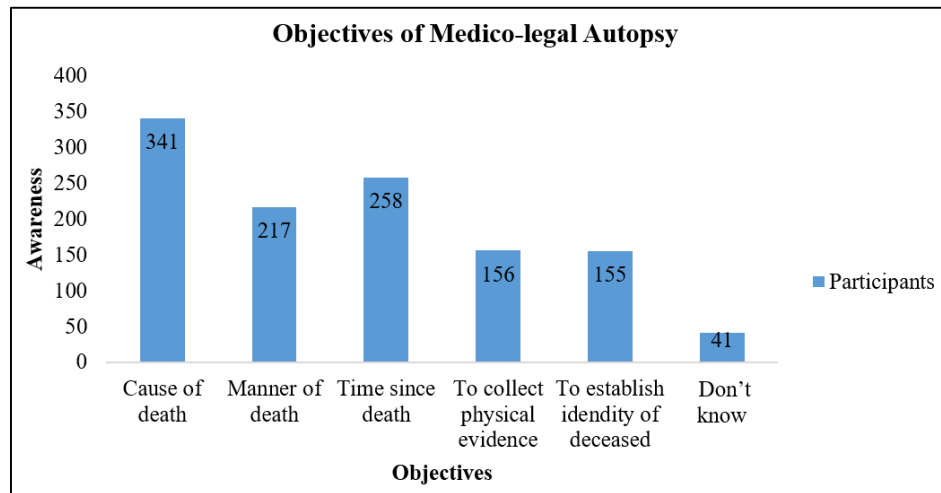


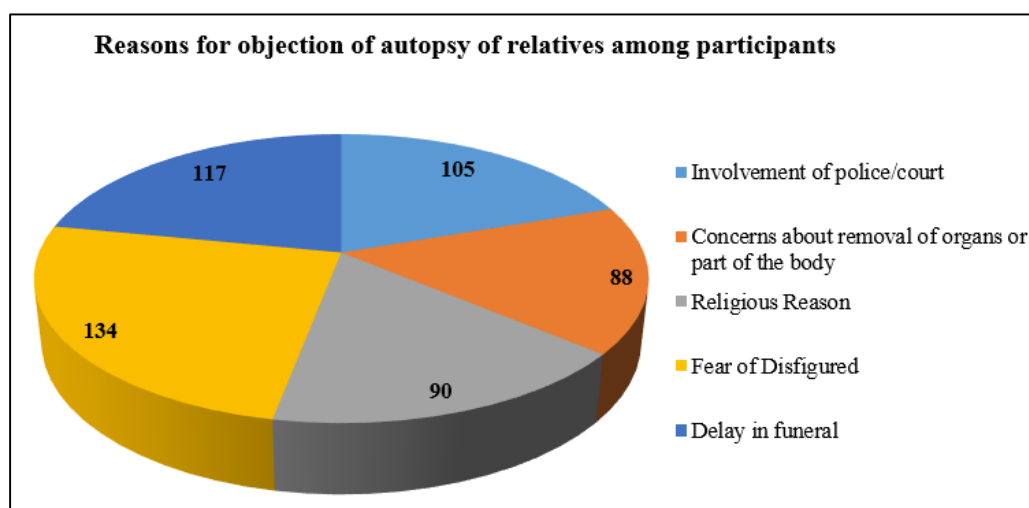
Figure 1: Knowledge of objectives of medico-legal autopsy among participants

Table 3: Knowledge of objectives of medico-legal autopsy among participants

Statement		Yes	No	Chi square	p value
Medico-legal autopsy involves examination of body externally and internally	Males	144(71.3%)	58(28.7%)	26.84	0.000000221
	Females	87(45.5%)	104(54.5%)		
	Urban	109(63.7%)	62(36.3%)	26.85	0.00000022
	Rural	83(37.4%)	139(62.6%)		
Autopsy involves taking out viscera for toxicological, histo-pathological and other examination	Males	64(31.7%)	138(68.3%)	5.234	0.02215
	Females	41(21.5%)	150(78.5%)		
	Urban	63(36.8%)	108(63.2%)	14.97	0.0001091
	Rural	43(19.4%)	179(80.6%)		
Medicolegal autopsy requires consent of family or the next of kin	Males	90(44.6%)	112(55.4%)	2.393	0.122
	Females	100(52.4%)	91(47.6%)		
	Urban	76(44.4%)	95(55.6%)	8.741	0.003111
	Rural	132(59.5%)	90(40.5%)		
Postmortem Examination is not needed if the nearest relatives of the deceased do not request for it	Males	99(49%)	103(51%)	12.28	0.0004582
	Females	127(66.5%)	64(33.5%)		
	Urban	54(31.6%)	117(68.4%)	39.41	0.0000001
	Rural	141(63.5%)	81(36.5%)		
Blood sample is collected during postmortem examination for analysis in all cases	Males	79(39.1%)	123(60.9%)	75.98	0.0000001
	Females	157(82.2%)	34(17.8%)		
	Urban	61(35.7%)	110(64.3%)	59.05	0.0000001
	Rural	165(74.3%)	57(25.7%)		
Dissected body is stitched & reconstructed to make it presentable after completion of postmortem examination	Males	110(54.5%)	92(45.5%)	14.89	0.0001139
	Females	67(35.1%)	124(64.9%)		
	Urban	119(69.6%)	52(30.4%)	26.17	0.000000313
	Rural	97(43.7%)	125(56.3%)		
Autopsy helps in solving crimes and give important information to police	Males	109(53.9%)	93(46.1%)	2.778	0.0478
	Females	87(45.5%)	104(54.5%)		
	Urban	99(57.9%)	72(42.1%)	30.41	0.0000001
	Rural	67(30.2%)	155(69.8%)		

Table 3 Continued...

Postmortem involves going to the court in all cases	Males	143(70.8%)	59(29.2%)	0.1904	0.6626
	Females	139(72.8%)	52(27.2%)		
	Urban	56(32.7%)	115(67.3%)	71.01	0.0000001
	Rural	167(75.2%)	55(24.8%)		
The body is disfigured after Postmortem Examination	Males	71(35.1%)	131(64.9%)	17.26	0.00003258
	Females	104(56%)	84(44%)		
	Urban	69(40.4%)	102(59.6%)	6.799	0.009121
	Rural	119(53.6%)	103(46.4%)		
After postmortem examination body emits foul smell	Males	70(34.7%)	132(65.3%)	14.02	0.0001806
	Females	102(53.4%)	89(46.6%)		
	Urban	67(39.2%)	104(60.8%)	27.5	0.000000157
	Rural	146(65.8%)	76(34.2%)		

**Figure 2:** Reasons for objection of autopsy of relatives among participants

When inquired whether they would object or not for autopsy of their relatives, most of them (64.2%) mentioned their objection for autopsy. The reasons for this are depicted in **Figure 2**.

Regarding the expenses for medico-legal autopsy, most of the participants 278(70.7%) were of opinion that Government bore those expenses followed by Relatives of the deceased 24(6.1%) and 91 (23.2%) were not aware about that.

4. Discussion

The present study aimed to assess awareness toward medico-legal autopsies among individuals visiting a tertiary care hospital in Central India. The findings highlight that public awareness remains limited, and several misconceptions continue to affect attitudes and cooperation regarding autopsy procedures.

Majority of participants said that the objective of medico-legal post-mortem was finding cause of death followed by time of death. This was in line with the findings reported by Barot et al, Ramlah et al, Rathinam et al, Subedi et al and Parmar et al.^{3,8-11}

The overall awareness about medico-legal post-mortem was 62.85% which was comparable to the findings reported by Sesen et al, Moorthy et al,^{12,12} which were 79.7% and 72% respectively. Whereas Haricharan et al¹⁴ reported that 82% participants were aware about medico-legal post-mortem and Subedi et al⁹ reported that 98.46% were aware about autopsy which was higher than the awareness reported in the present study. This may be because of mixed population both from urban and rural areas were included in the study. A study conducted in Nigeria by Oluwasola et al¹⁵ and in Puducherry by Parmar et al¹⁰ reported that only 42% and 41% participants respectively were aware about the autopsy which is quite low compared to present study. Rathinam et al⁸ reported that the awareness was 63% among those relatives which were not willing for autopsy while it was 86% among the relatives of patients who were willing for autopsy.

In the present study the awareness that medico-legal post-mortem examination is mandatory in all unnatural, sudden, unexpected and suspicious death among males was 71.8% and that in females was 53.4% were aware. The association of knowledge regarding medico-legal post-mortem with gender was found to be statistically significant ($p < 0.0001$). It was seen that males had more knowledge than females. This may be due to the fact that in Indian scenario

males are more involved in handling these processes than females. Most of the studies have not evaluated this parameter.

58.78% participants were aware that medico-legal autopsy involves both internal and external examination. 48.35% said that relative's consent is required. A significant proportion of participants were unaware that consent is not required for medico-legal autopsies mandated by law. 57.51% had an idea, that postmortem examination is not needed if nearest relatives do not request for it. 71.76% participants thought that postmortem involved going to the court in all the cases. 44.53% believed that postmortem disfigured the body, while 43.77% believed that it led to foul smelling body. Similar findings were reported by Barot et al, Ramlah et al, Rathinam et al and Subedi et al^{3,8,9,11} showing more or less similar awareness about medico-legal post-mortem in different parts of India. The findings in the present study points towards requirement of spreading awareness about medico-legal post-mortem is need of hour among the general population which will help to make the procedures smooth and un-hurdled

The knowledge of various aspects of medico-legal autopsy among male participants ranged from 31-70% while those in females ranged from 21-82%. Males had better knowledge than females about various aspects of medico-legal post-mortem ($p < 0.0001$). Similarly, it was seen that knowledge about medico-legal post-mortem was better among urban participants than rural ($p < 0.0001$) which shows that the misconceptions are more prevalent in the rural parts of the country.

The commonest reason for objecting autopsy reported by the participants was fear of disfigurement followed by delay in funeral and involvement of police and court. Similar findings were reported by Rathinam et al and Sesen et al.^{8,12} While Parmar et al¹⁰ reported that the commonest reason was the concern about removal of organ or part, followed by delay in funeral and religious objections. Moorthy et al stated that most of the participants reported the reason was the inadequate information by the authorities.¹²

5. Limitations

This study was conducted in a single tertiary care hospital, which may limit the generalizability of findings to the broader Central Indian population.

6. Conclusion

Despite having an important role in the machinery of justice, the knowledge and attitude of the general public towards autopsy is still poor. From the findings of the present study, it is evident that myths, misconceptions and lack of awareness still exist in the minds of people about postmortem examinations.

There is a need for clarification about the essence of postmortem examination, which is an important tool in the administration of justice. Increasing awareness of medico-legal autopsies involves a multi-faceted approach that includes education, accurate media representation, professional insights, and cultural sensitivity. By addressing these areas, we can improve public understanding of the crucial role that medico-legal autopsies play in our legal and health systems. Improving awareness can help demystify the process and highlight its importance in both legal and medical contexts.

7. Recommendation

Public awareness regarding medico-legal autopsy is the need of the hour. It can be spread through media influence, health education campaigns and training of healthcare professionals to communicate better.

8. Source of Funding

Nil.

9. Conflicts of Interest

There are no conflicts of interest.

10. Acknowledgement

We would like to thank all the participants who consented to participate in the study.

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Cite this article: Kasulkar AA, Wakde SD, Hajare S, Bhagwat DL, Khan S. Awareness of medico-legal autopsies among population visiting tertiary care hospital of central India: A cross-sectional study. *Indian J Forensic Community Med.* 2025;12(4):261–266.