

# Unveiling Opinions: Exploring the Public's View on Clinical Autopsies

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## ABSTRACT

**Background:** Clinical autopsy is an invaluable tool useful to identify causes of death and to uncover unknown and unexpected diseases which aids in raising awareness of common and rare diseases in a community. Clinical autopsy is essential to study pattern of morbid diseases that aids in formation of effective healthcare policies.

**Aim:** To investigate the views of the general public on clinical autopsies in order to determine general conceptions and misconceptions that may aid in further a discussion and investigations.

**Methodology:** This prospective cross-sectional study was conducted at Department of Forensic Medicine, Dow International Medical College, Dow University of Health Sciences Karachi Pakistan from October 2022 till March 2023. Data was collected from 300 participants using a 15-item questionnaire distributed to general population from various parts of Karachi selected by convenient sampling.

**Results:** 46% were aware of term clinical/medical autopsy. 77% acknowledged medical and social role of clinical autopsies. Less than 50% could differentiate between clinical and medico legal autopsy. 50% are of the opinion that autopsy should not be conducted in natural deaths. 55% and 64% of the participants were of the opinion that clinical autopsy can improve future lives of people and provide diagnostic and curative strategies respectively. Participants of the study were unsure about the Islamic perspective of autopsy. 57% agreed to give consent for autopsy in society's best interest.

**Conclusion:** The large majority is uncertain about autopsy given their religious and personal views but it also reveals many acknowledge its possible utility in medicine and in bereavement process. Therefore, despite lack of research and public discourse, it provides us with data that may encourage and aid further research and discussion about acceptance of autopsy as a viable diagnostic tool.

**Keywords:** Autopsy, Clinical autopsy, Medical autopsy, Pakistan

## INTRODUCTION

Autopsy is an essential investigative tool that has been deployed since centuries<sup>1</sup>. In the past, autopsies were used for a variety of reasons, including medical care (diagnostic-related groups, quality assurance, and total patient care), medical science (research, education, transplantation, and prostheses), society (public health, vital statistics, and forensic issues), and family (research, education, transplantation, and prostheses) (counselling and understanding the life cycle)<sup>2</sup>. Additionally, autopsies are one of the most essential aspects of forensic pathology, as determining the exact cause and manner of death has significant medical-legal ramifications<sup>3,4</sup>.

Attributing to various factors, the rate of autopsy has gradually begun to decline globally in recent decades. First of many publications to address this phenomenon was as early as 1950.<sup>5</sup> Despite the reduction in autopsy rates at American medical facilities outside of the jurisdiction of medical examiners as a result of the numerous factors influencing medical practice today, the relevance of autopsies remains unchanged<sup>5,6</sup>. Conditions in other countries, such as England, are even worse<sup>7</sup>. Attitudes (clinicians, pathologists, families, administrators, politicians), time restrictions and competing obligations of pathologists, physicians' worries of legal liability and being wrong, costs (professional, overhead), contemporary medical technology instilling false confidence, and failure to include autopsy findings in death certificate documentation are all factors contributing to low autopsy rates<sup>2,5,6</sup>.

Despite such alarming trends few studies have been carried out to assess the knowledge, attitude and practical views of the general population regarding use of autopsies. They discovered that emotional, cultural, and religious responses all have a role in public perceptions of autopsy<sup>8</sup>. Some religions hold severe stances against autopsy as it may delay the burial process<sup>9,10</sup>, but some hold a more relaxed perspective<sup>10</sup>.

However, it was obvious that with increased awareness regarding the benefits of autopsy the scenario can be changed<sup>1</sup>.

Pakistan, being an Islamic state and having a poorly resourced research climate, has an immense gap in literature when it comes to knowledge and attitudes of the public as well as physicians. To date there are currently no statistics available to determine the practices of clinical autopsies for research purposes. Our goal is to fulfil this gap in literature by establishing the public perspective of the local Pakistani population on clinical autopsies and what can be done to alleviate their concerns and increase awareness of the benefits of autopsies.

**Practical Implication:** In order to prevent inaccurate assessment, omission, and contamination of significant evidence of death, physicians should receive specialized training in forensic medicine and certification. In order for MLOs with forensic medicine competence to meet the demands of the present, the government should work to train doctors in the field.

## MATERIALS AND METHODS

It was a prospective cross-sectional study conducted from October 2022 till March 2023. Data was collected using a 15-item questionnaire distributed to general population from various parts of Karachi selected by convenient sampling. Sample size of 300 was calculated by using Open Epi version 3.01. Both males and females above 21 till 60 years of age and with minimum qualification at and above intermediate were included in the study. Prior to study full consent of each participant was taken. The research topic was explained to the participant and the participant's privacy, dignity and autonomy was ensured. The information collected was anonymous and cannot be linked to the respondents. The questionnaire comprised 2 sections. First section of demographic details and second section contained 15 items regarding knowledge and attitude towards autopsy. Data was entered into MS Excel sheet and exported to SPSS-20.

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## RESULTS

There were 155(51%) male respondents and 145(49%) female respondents (Fig. 1). Age of respondents ranged from 21years of age to 60 years of age (Table 1). Elements of the questionnaire and its response are represented in Table 2. Age wise distribution of knowledge and perception is represented in Figure 2.

Table 1: Frequency of age (n=300)

Age (years)	No.	%
21-30	82	27.33
31-40	117	39.0
41-50	58	19.33
51-60	43	14.33

Table 2: Questionnaire elements and responses

Question items	Answer	No.	%
Q1. Do you know what clinical/medical autopsy is?	Yes	138	46.0
	No	162	54.0
Q2. Does autopsy have a social and medical application?	Yes	231	77.0
	No	26	8.7.0
	Don't Know	43	14.3
Q3. Does it help to reveal cause of death, natural or unnatural?	Yes	243	81.0
	No	22	7.3
	Don't Know	35	11.7
Q4. Does determining cause of death bring peace to relatives of deceased?	Yes	152	50.7
	No	85	28.3
	Don't Know	63	21.0
Q5. Should autopsy be held in case of natural death?	Yes	108	36.0
	No	152	50.7
	Don't Know	40	13.3
Q6. Does autopsy interferes with dignity and peace of the deceased?	Yes	125	41.7
	No	84	28.0
	Don't Know	91	30.3
Q7. Does the idea of dissection of the deceased make you anxious?	Yes	172	57.3
	No	127	42.3
	Don't Know	1	0.3
Q8. Does the above anxiety demotivate you against considering autopsy?	Yes	156	52.0
	No	143	47.7
	Don't Know	1	0.3
Q9. Do time, cost and judgment from society determine your motivation towards an autopsy?	Yes	180	60.0
	No	120	40.0
Q10. Does role of police and court play a role in your motivation towards autopsy?	Yes	213	71.0
	No	87	29.0
Q11. How strongly do you believe in the fact that autopsy won't bring the dead back, thus there is no point in ordering an autopsy?	Yes	157	52.3
	No	143	47.7
Q12. Will autopsy help to provide information which might allow other people to live healthier lives in future?	Yes	166	55.3
	No	51	17.0
	Don't Know	83	27.7
Q13. Will it help doctors to form better diagnostic and curative strategies upon observing effects of current modalities?	Yes	192	64.0
	No	36	12.0
	Don't Know	72	24.0
Q14. Does Islam allow autopsy?	Yes	76	25.3
	No	77	25.7
	Don't Know	147	49
Q15. In situations where experts' advice you to provide consent for autopsy as it's in society's best interest, would you comply?	Yes	172	57.3
	No	49	16.3
	Don't Know	79	26.3

## DISCUSSION

Since in Pakistan there is no concept of clinical autopsy, this study confirms lack of awareness of general population regarding clinical autopsy. In this current study people have a rough idea that autopsy has a role in medical procedures (77%) and determines cause of death (81%) but specifically speaking about clinical autopsies, people often lack the awareness to differentiate it from medico legal autopsy (46%), thus misconceiving autopsy as an investigating tool for unnatural deaths solely. Crime shows are popular in Pakistan which often portray use of autopsy in unnatural

cases, often use synonyms like necropsy or post-mortem to refer autopsy which might as well contribute towards much confusion that people face when dealing with this matter<sup>11</sup>. Here a contrast becomes apparent between the general public and physician that physician see beyond the symbolism<sup>12</sup>, rather they value information from autopsies that may serve to further medical research and improve medical care.

Public opinion in Pakistan is largely influenced by religious and social norms and clinical autopsy is no exception. This subject often proves to be socially challenging for most individuals. Socially, this is an issue over which a person may find himself/herself in a dilemma<sup>13,14</sup>. This notion further reflects on people's opinion that, "the person was bound to die, neither it will do any good to the deceased and to its soul, nor it would bring them back". Thus, people believe that autopsy might only interfere with dignity and peace of the deceased. Rathinam et al<sup>15</sup>, affirmed a finding from the study conducted in Haryana that, 77.3% of the relatives considered autopsy would disrupt the peace of deceased.

Public's greatest reservation may lie in the fact that they fear mutilation of body. They fear with the thoughts of seeing exposed bone, flesh and oozing fluid<sup>16</sup>. In Scotland, 38% of neonatal autopsies requests were declined out of fear of disfigurement<sup>17</sup>, while a Swedish survey 57% of the respondents expressed discomfort to possibility of dissection<sup>18</sup>. This outcome is consistent with the results of other studies carried out in Zambia and China by Lishimpi et al<sup>19</sup> and Bierig<sup>20</sup>. In reality, bodies are preserved very well and treated respectfully, but it demotivates relatives of the deceased who consider the body a symbol of that person and may consider it undignified.

Fig. 1: Gender distribution

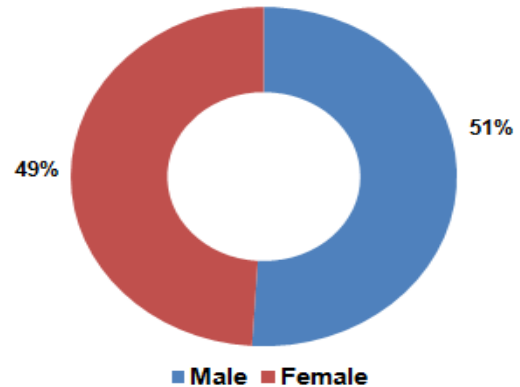
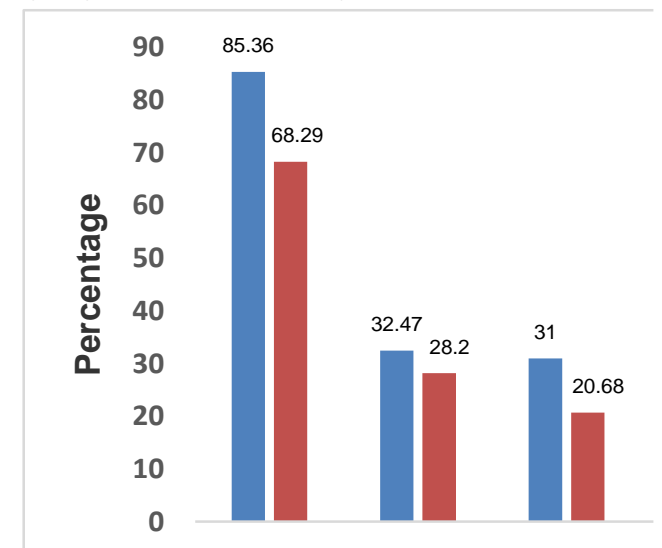


Fig. 2: Age-wise distribution of knowledge and perception of clinical autopsy



Other reservations that were significant were perceived cost of autopsies, involvement of court and police which can be time consuming and unnerving. Oluwasola et al<sup>21</sup>, mentions some of the other reasons of refusal like cost, pending funeral arrangements, and social stigma. A study conducted by Rathinam et al<sup>15</sup> reported that 92.1% refused due to involvement of police and court, 83.4% favored delay in funeral and 77.3% denied as autopsy will not bring their loved ones back.

Despite fear and reservations most participants were aware that autopsy may provide help to improve their health care system. In this study 55.3% of respondents believed that autopsy might improve lives in the present and the future, while 64% believed it might promote better medical practice in terms of developing effective diagnostic and therapeutic facility. It's been estimated that one-third of death certificates are inaccurate and around 50% of autopsies uncovered previously unknown medical issues.<sup>22</sup> Autopsy therefore serves an important purpose to identify unknown inheritable genetic diseases and outbreaks allowing healthcare system to take pre-emptive measures. This may further serve to assess efficacy of commonly used diagnostic and therapeutic capabilities, allowing detection of diagnostic errors, malpractice and further potential for improvements. According to one study, clinical autopsy improves detection of atypical cases<sup>23</sup>, improving pattern recognition and optimizing diagnosis and patient care. Another study reveals a consistent trend of autopsy has helped to keep diagnostic error at a minimum<sup>24</sup>.

Religion plays a major role in acceptance of autopsy. Our study showed that 25.3% of the surveyed public was of the opinion that Islam allowed autopsy. This can be explained by a number of reasons. It's preferred to carry out burial rituals promptly as bereavement aren't meant to last for more than 3 days<sup>1,20</sup> as to ensure peace of the soul of the deceased<sup>25,26</sup>, though the topic of autopsy is never brought up in the Qur'an or the Hadith. Scholars have thus presented multiple points of view, which could lead to misunderstanding but could also result in a fruitful synthesis<sup>27</sup>.

Based on the results obtained it's clear that a significant gap exists between practice, perception and knowledge of public. In US, more than 3,000,000 deaths were recorded and their cause largely determined<sup>28</sup>. This type data doesn't exist for Pakistan but it can be safely assumed that number is even larger. Interestingly, our participants despite being subject to their limitations, majority (57.3%) did agree to hypothetically comply with request for an autopsy.

## RECOMMENDATIONS

Due to the growing burden of diseases, modern medicine is evolving, and autopsies play a key role in giving the public scientific explanations. It is essential to provide some short- and long-term recommendations in the form of awareness campaigns using print and electronic media. These are essential to bringing about a shift in public perception and to displacing preconceived notions with sensible, evidence-based responses to this question. The medical team should receive training in counselling and communication techniques to win the family's acceptance. In order to prevent inaccurate assessment, omission, and contamination of significant evidence of death, physicians should receive specialized training in forensic medicine and certification. In order for MLOs with forensic medicine competence to meet the demands of the present, the government should work to train doctors in the field. The country urgently needs to build training institutions in the field of forensic medicine in addition to training human resources.

Our society's primary hurdle is cultural prejudice. We suggest that awareness campaigns should be arranged similar to organ donation to educate public as well as public awareness educational programs, and panel discussions on the effectiveness and public health value of autopsy, religious and community stakeholders should be included in lowering the barriers.

## CONCLUSION

Lastly, it's necessary to point out with lack of clinical autopsy our healthcare is at a loss. This prevents us from identifying unique characteristic of disease and often many atypical cases are missed. This limits academic potential and our understanding. Since even physicians and surgeons are unsure of the practice, the medical community imposes subconsciously self-censorship, preventing a discussion in regards to implementing the practice of clinical autopsy. This is further consolidated by lack of research activity in this field and possibly a publication bias which may stem from fear of investigation upon revelation of diagnostic error or simply by lack of interest.

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1. Conception and design of or acquisition of data or analysis and interpretation of data.
2. Drafting the manuscript or revising it critically for important intellectual content.
3. Final approval of the version for publication.  
All authors agree to be responsible for all aspects of their research work.

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