

Exploring Knowledge, Attitudes, and Practice of Ethics among South Indian Anatomists: A Cross-sectional Study

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ABSTRACT

Objective. The use of human cadavers for anatomical dissection and biomedical research is a longstanding practice in medical education. Typically, cadavers are sourced from donors who have given informed consent during their lifetime, respecting their autonomy and the dignity of the deceased. However, the ethical handling of unclaimed bodies, which are not donated by informed consent, remains a contentious issue. This study aims to assess the knowledge of ethical principles among anatomists regarding the use of unclaimed bodies for educational and research purposes. **Methods.** A questionnaire-based survey was conducted involving 120 anatomists with undergraduate and postgraduate degrees in Anatomy. The survey included general demographic questions followed by specific inquiries about ethical principles related to unclaimed bodies. Participants were required to provide consent before completing the questionnaire. The survey was distributed via google form with a one-week response period, followed by reminders. Non-respondents were excluded from the study. Inclusion criteria were limited to anatomists with relevant postgraduate qualifications, while exclusion criteria included unwillingness to participate and incomplete responses. **Results.** The findings indicate that many anatomists exhibit limited understanding of key ethical principles such as autonomy and non-maleficence, particularly concerning using unclaimed bodies. The majority of respondents justified the use of unclaimed bodies as necessary for cadaver procurement, reflecting a gap in ethical awareness. The utilization of unclaimed bodies raises serious ethical issues, particularly regarding autonomy and informed consent. **Conclusion.** This study concludes that unclaimed bodies should not be used for dissection or research purposes due to these ethical breaches. Strengthening ethical education and promoting voluntary body donation are crucial steps toward addressing these challenges and ensuring ethical practices in anatomical research and education.

Keywords: Anatomy, Cadavers, Ethics, Unclaimed bodies, Body donation.

INTRODUCTION

In the Anatomy field, major to clinical training and examination, includes the investigation of the human body, frequently requiring the utilization of cadavers, which carries with it a large group of moral contemplations. Ethical practices are crucial in ensuring respect for human dignity, especially in the context of dissection, research, and the use of body donations. A deep understanding of ethical principles is essential for anatomists, not only for their own professional integrity but also for fostering trust in the scientific community and society at large ⁽¹⁾. Moral quandaries in life structures have a verifiable setting, with challenges around body obtainment and use being legitimate ⁽²⁾. Contemporary anatomists must navigate issues related to consent, respect for donor

bodies, and the appropriate use of cadavers in research and education ⁽³⁾. While ethical frameworks have evolved, the knowledge, attitudes, and practices regarding these frameworks may vary significantly among professionals in the field. Ethical considerations in medical education and research are critical for maintaining the integrity and dignity of both the living and deceased. Anatomical dissection, a central part of clinical preparation, depends intensely on the utilization of human bodies ⁽⁴⁾. Traditionally, these cadavers are obtained through voluntary donation, reflecting the donor's informed consent and respect for personal autonomy. However, the ethical handling of cadavers, especially unclaimed bodies, poses significant challenges and has sparked considerable debate. Anatomists, who play a pivotal

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role in the procurement, use, and teaching of anatomical specimens, are expected to uphold stringent ethical standards. Despite this, there is growing concern about whether anatomical professionals possess adequate knowledge, demonstrate appropriate attitudes, and practice ethical principles effectively in their work. This concern is particularly relevant in contexts where unclaimed bodies are used for educational purposes, raising questions about adherence to ethical norms such as respect for autonomy, informed consent, and non-maleficence. Assessing the current knowledge, attitudes, and practices (KAP) of ethics among anatomists is critical for identifying gaps and areas that require further education or policy interventions. Prior studies suggest that while anatomists are aware of ethical guidelines, the translation of this awareness into consistent practice is inconsistent ⁽⁵⁾. The knowledge, attitude, and practice (KAP) framework provides a comprehensive approach to understanding how individuals' knowledge influences their attitudes and practices. Assessing anatomists' KAP regarding ethics in the use of human cadavers can reveal gaps in understanding and areas requiring improvement ⁽⁶⁾. This is essential for ensuring that ethical considerations are fully integrated into the training and professional conduct of anatomists. This study aims to evaluate the knowledge, attitudes, and practices of anatomists concerning ethical principles in anatomical education and research. By exploring these dimensions, the study seeks to identify potential discrepancies between theoretical ethical knowledge and practical application, thereby contributing to the development of enhanced ethical guidelines and educational strategies in anatomical sciences.

MATERIALS AND METHODS

Ethical Considerations:

Ethical approval was acquired from the institutional board. Informed consent was secured from all participants before they completed the questionnaire.

Study Design: This cross-sectional study aimed to assess the knowledge, attitude, and practice of ethics among anatomists with respect to the use of unclaimed bodies. A questionnaire-based survey was utilized to gather data on these ethical principles. **Participants:** A sum of 120 anatomists were included for this work. Members were chosen in view of the accompanying standards:

- **Inclusion Criteria:** Anatomists holding a

undergraduate (UG) and postgraduate degree (PG) in Anatomy were eligible to participate.

- **Exclusion Criteria:** Exclusion was applied to individuals who were unwilling to participate or provided incomplete responses.

Questionnaire Development: The study utilized a structured questionnaire designed to evaluate the participants' understanding and application of ethical principles related to the use of unclaimed bodies. The questionnaire comprised of two fundamental segments:

- **General Information:** Demographic data including educational background, professional experience, and current practice.
- **Ethical Principles:** Specific questions aimed at gauging knowledge, attitudes, and practices concerning ethical issues related to unclaimed bodies.

Procedure:

1. **Consent:** Prior to completing the questionnaire, participants were required to read and sign a e-consent form, which ensured that they were informed about the study's purpose and their rights as participants.
2. **Distribution:** The survey was conveyed electronically through Google structure to the chose anatomists. Each participant received a personalized email with a link to the online survey.
3. **Response Time:** Members were given one week to finish and submit the survey.
4. **Follow-Up:** Non-respondents received a reminder email after the initial one-week period. A second reminder was sent if there was no response following the first reminder.
5. **Exclusion of Non-Respondents:** Members who didn't answer after two updates were prohibited from the review, and their reactions were excluded from the last investigation.

Data Collection and Management:

- **Collection:** Responses were collected electronically and securely stored to ensure confidentiality.
- **Handling:** Incomplete responses were identified and excluded from analysis. Just completely finished surveys were thought of as substantial for the review.

Statistical Analysis:

- Graph pad prism 7.0 software were used to summarize the demographic data and responses to the ethical questions. Analysis was performed to identify patterns in knowledge, attitudes, and practices.

RESULTS

Out of the one hundred and twenty mails sent only 100

responded that too after 2-3 reminders were sent. Among which 20 were not barred in this study in view of fragmented reactions. This study reveals the very fact that even the Professional Anatomists have little idea about ethical aspects like Autonomy , Non-Malaficience etc., as they consider unclaimed bodies can be utilized without any remorse. This study highlights the importance of training/ teaching or even including ethics as part of the undergraduate and postgraduate curriculum both in clinical as well as non/para medical areas. All 100 responses clearly states the utilization of unclaimed bodies as the only way to procure cadavers for dissection. In (Figure-1) This bar graph shows the distribution of responses on ethical principles across three categories: Knowledge of Ethical Principles: 75% of respondents have high or moderate knowledge of ethical principles, making this the most informed area. This suggests that anatomists are generally well-versed in the ethical guidelines relevant to their field. Attitudes Towards Unclaimed Bodies: 60% of respondents express concerns or neutral positions on ethical issues regarding unclaimed bodies. This is a notable area where ethical discussions and training may need to focus, given that a sizable portion of respondents still struggle with their stance. Practices Concerning Unclaimed Bodies: 50% of respondents practice adherence to ethical standards, but the remaining 50% are either indifferent or minimally follow the standards. This suggests a significant gap between knowledge and ethical application. In (Figure-2) displays a bar chart representing the Percentage of knowledge, attitudes, and practices among anatomists. Here's the interpretation: Knowledge of Ethical Principles: 30% of respondents reported High Knowledge. 50% indicated Moderate Knowledge. 20% admitted Low Knowledge. The error bars indicate some variability in the reported percentages, but the moderate knowledge level is clearly the most prevalent. Attitudes Towards Unclaimed Bodies: 40% of respondents have Ethical Concerns about the use of unclaimed bodies. 35% of respondents are Neutral/Indifferent. 25% are Supportive of Utilization. Ethical concerns stand out as the dominant attitude, while there is still a significant portion of respondents who are indifferent or supportive. Practices Concerning Unclaimed Bodies: 20% follow Strict Adherence to ethical standards. 50% demonstrate Moderate Adherence. 30% exhibit

Minimal Adherence. It's notable that most respondents adhere only moderately to ethical standards, with a relatively small proportion strictly following them. The pie chart (Figure-3) summarizes the distribution of responses in terms of overall knowledge, attitude, and practice: Attitude: Represents the largest section with 40%, indicating that ethical concerns and attitudes toward unclaimed bodies are a major focus of the respondents. Knowledge: Accounts for 35%, showing that many respondents are knowledgeable but may still have areas to improve. Practice: Is the smallest segment with 25%, suggesting that there may be a gap between knowing ethical principles and putting them into practice.

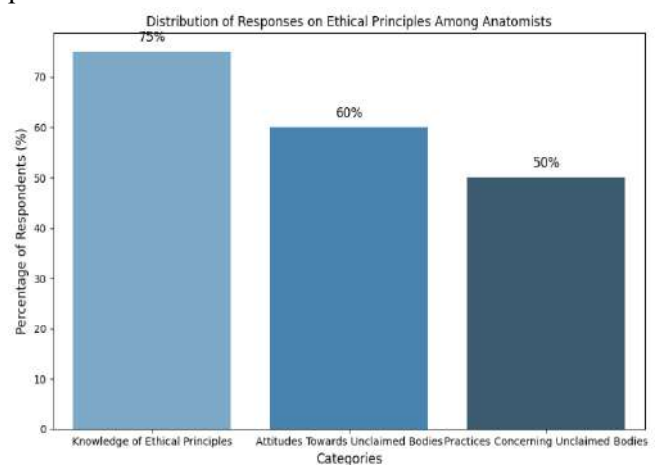


Figure-1: Bar graph showing the distribution responses from the anatomists on knowledge of ethical principle, attitudes towards unclaimed bodies and practices concerning unclaimed bodies.

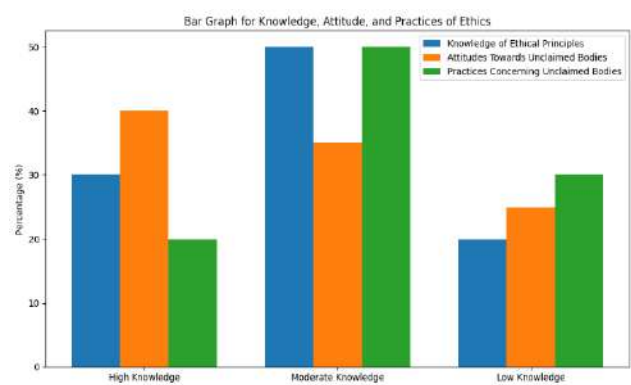


Figure-2 : Bar graph showing the percentage of high-knowledge, Moderate knowledge and low knowledge among the anatomists on knowledge of ethical principles, attitudes towards unclaimed bodies and practices concerning unclaimed bodies.

Knowledge, Attitude & Practice of Ethics amongst Anatomists

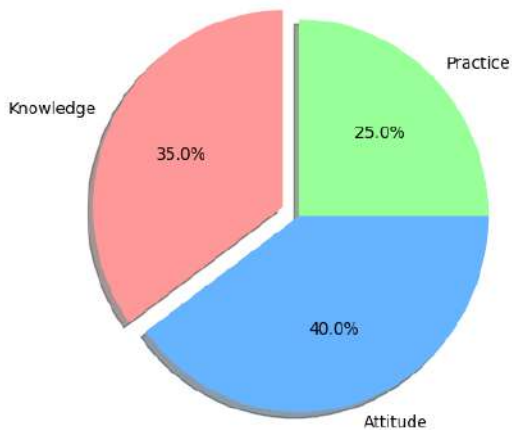


Figure-3 : Pie diagram showing the overall percentage about knowledge, attitude and practice of ethics from the anatomists.

DISCUSSION

This study as well as previous studies have the same school of thoughts like the core aspect of unclaimed bodies can be very well utilized for dissection/research purposes, but the idea behind the study was to ascertain the knowledge about the ethical principles to be followed by a medical professional. Our study throws light on the deficiency in the knowledge of ethical principles among professionals⁽⁷⁾. The findings from these graphs indicate several important points about the ethical landscape among anatomists: While the majority of anatomists show moderate to high knowledge of ethical principles, there's still a subset that requires more education or reinforcement in this area. Ethical concerns regarding the use of unclaimed bodies are prevalent, but a significant number of respondents remain neutral or supportive of their utilization⁽⁸⁾. This could reflect differing perspectives on how unclaimed bodies should be treated in medical education or research. There's a clear gap between the knowledge of ethical standards and the actual practice of adhering to these standards⁽⁹⁾. Most anatomists demonstrate only moderate adherence to ethical guidelines, with a smaller percentage practicing strict adherence. This data suggests that while anatomists are generally knowledgeable, there is room for improvement in both the attitudes towards unclaimed bodies and the consistent application of ethical practices. Addressing these gaps through targeted ethical training and discussions could enhance the overall ethical standards within the field⁽¹⁰⁾.

CONCLUSION

Like to conclude that incorporating ethics as a part of undergraduate and postgraduate curriculum with a

mandatory assessment is the need of the hour. Moreover, the author has a opinion that scarcity of cadavers in medical colleges is the paramount cause for the professionals to breach the ethical principles. To suffice the need propaganda of body donation, awareness about it plays a pivotal role, perhaps these are all in place as of South India is concerned but this has to be enhanced still to achieve the goal of voluntary body donation. The study aimed to provide insights into the current level of ethical awareness among South Indian anatomists and highlight areas where further education and training may be required to uphold ethical standards in anatomical research and education.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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