

Original Research

Perceptions of 4th-year Medical Students Towards the Insufficiency of Human Cadavers for Medical Training at the University of the Philippines College of Medicine

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ABSTRACT

The use of cadavers in anatomy is one of the most vital steps in training and preparing medical students throughout their professional journey. This qualitative study explores the perceptions, learning and coping mechanisms of 4th-year medical students at the University of the Philippines College of Medicine (UPCM) regarding the insufficiency of human cadavers. The qualitative study employed a phenomenological design using a structured interview to further understand the experiences and perceptions of the 4th-year medical students on this phenomenon. A thematic analysis was used to examine the data gathered from 4th-year medical students enrolled at the University of the Philippines Manila College of Medicine (UPCM) regarding their experiences with the insufficiency of human bodies in medical training. The participants' feedback showed that the insufficiency of human cadavers in medical education presents significant challenges for the medical student training and the impact of insufficient human cadavers in their medical training, as highlighted in the responses and various studies. Addressing the scarcity of human cadavers in their medical training, as highlighted in the responses and various studies. The study concludes that addressing the scarcity of cadavers and prioritizing hands-on experience with real human anatomy are crucial for ensuring that medical students receive comprehensive training and develop the necessary skills for their medical practice. It is recommended that the research findings should be used to inform the government about the insufficiency of human cadavers in the medical fields, prompting lawmakers to recognize body donation as a state policy. Local communities should hold medical and education seminars to raise awareness about the issue of human cadavers and encourage discussions.

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INTRODUCTION

Anatomy plays a significant role in education as it gives medical students a thorough understanding of the structure of the body, which serves as the foundation for disease diagnosis and treatment. The use of cadavers in anatomy is one of the most vital steps in training and preparing medical

students throughout their professional journey. Without a sufficient amount of human cadavers, medical students won't be familiar with the hands-on experience of learning cadaver dissection. It might not provide the tactile experience and depth of knowledge that medical students will be learning. Students might miss out on the chance to investigate structures in three dimensions and to connect their understanding of anatomy with practical applications in medicine (Walenna et al., 2023). Exposure to cadavers for medical education is not for everyone, as stated in the study (Manaol, 2023). Some people may find it to be a disturbing or upsetting experience. However, for those who are willing to be open to the experience, it can be a valuable learning opportunity. Medical students would not be as equipped to handle real-life circumstances and give patients the best care possible if there is not a sufficient quantity of cadavers available for students to learn from. Human cadavers are essential to anatomy instruction, yet limiting exposure to cadavers affects student skill development and lowers the quality of healthcare services provided. The acquisition of human cadavers has been difficult for other medical institutions.

At the University of the Philippines College of Medicine, the UP Manila Alumni Society released an article in 2023 stating that one of the unexpected consequences of the recent pandemic was the shortfall in UPCM's main material for anatomical education. Due to the pandemic, the supply of cadavers at UPCM plummeted from a usual mortuary census of 100–120 per year to just 32 for 2020–2022. This was due to the strict national government policy of cremating the deceased to prevent the spread of infection. On average, the UPCM utilizes 30 cadavers per year for the Gross Anatomy course of LU3 students, with a cadaver typically shared by six

students. The extreme scarcity in cadaver supply during the pandemic period allowed only the use of 10 cadavers per year for gross anatomy dissection sessions.

This qualitative research aims to provide a comprehensive understanding of the impact and coping mechanisms surrounding the availability of human cadavers for medical training at the University of the Philippines College of Medicine (UPCM). By delving into this issue, the study seeks to gain a deeper understanding of how this insufficiency impacts the training of medical students.

METHODOLOGY

Research Design

This study employed a phenomenological research design to explore the perceptions and experiences of 4th-year medical students at the University of the Philippines Manila College of Medicine (UPCM) regarding the insufficiency of human cadavers for anatomical study.

Participants

The participants of this study consists of only five medical students currently in their 4th-year in medical school class of 2025, medical students currently studying at the University of the Philippines College of Medicine ages from 22-26 yrs old. The Purposive sampling method was chosen for this study because it focuses on selecting participants who are directly affected and knowledgeable about the insufficiency of human cadaver.

Research Instruments

The data collection method that was used in this study is structured interviews with researcher-crafted questionnaires. The study aimed to

gather the perceptions and lived experiences of the participants. The participants were asked in a Zoom meeting to voice out their personal views and opinions on the phenomenon. The structured interview allowed the researchers to have a clear understanding of the data collected, facilitating organized and consistent question and answer.

Data Collection Procedure

Five 4th-year medical students and asked for their consent to participate in the interview via Zoom meeting. After obtaining consent, an overview of the study and the interview process were provided. The interview was recorded and lasted approximately 30 minutes. The data obtained from the medical students was considered sufficient as all five participants provided comprehensive answers during the interview, ensuring a rich dataset for the researchers' analysis and research objectives.

Data Analysis

The analytical method that was used was thematic analysis. To find underlying meanings and concepts in qualitative data, thematic analysis entailed finding patterns or themes. The researchers carefully went over the interview transcripts several

times to become familiar with the data to discover themes and concepts. After that, preliminary codes were created using recurrent themes or patterns found in the transcripts. Subsequently, these codes were grouped and compared into larger themes, which made it possible to derive significant insights from the data.

RESULTS AND DISCUSSION

The Insufficiency of Human Cadavers Impacts the Training of Medical Students A thematic analysis regarding the human cadaver insufficiency impact in the training of medical students unveil three key themes: the essential role of human cadaveric dissection in medical education, the importance of hands-on experience with human cadavers, and ethical procurement and prioritizing access to human cadavers for medical education. The students give weight to two specific functions of importance and moral use of human cadavers in their education, stressing out its contributions while promoting how these cadavers are treated justly. These findings highlight the value of implementing human cadaveric education in the field of medicine, propounding both the essence and proper, ethical administration with these “silent mentors”.

Table 1 Thematic Analysis about The Insufficiency of Human Cadavers Impacts the Training of Medical Students

Theme	Sample Responses
The Essential Role of Human Cadaveric Dissection in Medical Education	<i>"It's a privilege na we are able to study these silent mentors. Hindi tayo as prepared, as we can be when we actually consult a patient..so pag human cadavers parang they give back for us to learn before actually going in to, before physically engaging with patients."</i>
The Importance of Hands-On Experience with Human Cadavers	<i>"So when we talk about anatomy, we should also learn about how it looks like because kung paano siya nakikita, may correlation siya sa function niya."</i>
Ethical Procurement and Prioritizing Access to Human Cadavers for Medical Education	<i>"Yong process like we explain to the patient's family that they have the opportunity or they have an option of donating the body of their patients for the sake of science and for the sake of learning. I guess, doon naming nakukuha 'yong cadaver"</i>

Note: Themes were identified based on the students' statements on the human cadaver insufficiency impacts in their training.

Medical Students Coping Mechanism on Insufficiency of Human Cadavers in their Medical Training using Innovative Approaches and Strategies

From the students' interview answers, three themes have emerged: innovative approaches to anatomy education in medical training, embracing technology in the absence of cadavers, and effective learning strategies for optimizing anatomical

education. These themes show how the coping mechanisms of students help with the insufficiency of human cadavers, with the assistance of multiple practical and substantial ways. Based on the students' responses, it suggests that various optimization of technology and other modern techniques, both digitalized and traditional, have vital contributions with managing the inadequacy of human cadavers.

Table 2 Thematic Analysis about Medical Students Coping Mechanism on Insufficiency of Human Cadavers in Medical Training.

Theme	Sample Responses
Innovative Approaches to Anatomy Education in Medical Training	<i>"Yong ginagamit ko kasi is human anatomy atlas hanggang ngayon ginagamit ko siya para siyang app sa phone tapos basically you can flip it around you can dissect it individually layer to layer hanggang ngayon parang pag nageeducate ako ng patient ayun ginagamit."</i>
Embracing Technology in the Absence of Cadavers	<i>"During the pandemic, we also learned how to use applications so that parang during dissection applications so we can see which structures are on top of each other without having to use human cadavers."</i>
Effective Learning Strategies for Optimizing Anatomical Education	<i>"[N]obody will teach you kasi rin if ikaw rin mismo, alam mo, parang... you're not as assertive with maximizing these opportunities. ang ideal student ay mag-aaral talaga beforehand para pagdating, pagpasok sa class, or pagpasok dun sa bridging program na yun, na-maximize mo na yung learning opportunity. And, also, learn to ask. So, alam mo nangang sobrang konti na lang yung time mo with the cadaver. Parang, alamin mo na kung anong kailangan mong malaman bago ka magkaroon ng session, baka pumunta sa dissection or, in our case, in our bridging program."</i>

Note: Themes were identified based on the students' coping mechanisms using innovative approaches and strategies with the insufficiency of human cadavers.

The Potential Consequences of the Perceived Insufficiency of Human Cadavers on the Quality of Medical Education

With the analysis on the potential recognized consequences on the quality of medical education with regards to the insufficiency of human cadavers, it enlightens three themes: the practical role of human cadaver in shaping the anatomical proficiency and clinical confidence of a medical student, the implications of cadaver insufficiency on

medical education and training, navigating educational challenges in medical training during the COVID-19 pandemic. In these themes, it is revealed how the students view human cadavers as an essential part of their education, and its perceived insufficiency implies various challenges that enforce their alternative learning strategies. These findings imply that human cadavers effectiveness in medical education plays a fundamental role in achieving the ultimate comprehensive learning on human anatomy.

Table 3 Thematic Analysis on the Potential Consequences of the Perceived Insufficiency of Human Cadavers on the Quality of Medical Education

Theme	Sample Responses
The Practical Role of Human Cadaver in Shaping the Anatomical Proficiency and Clinical Confidence of a Medical Student	<i>"Since we didn't cater the entire year studying the actual structures because, in the previous years when we study the anatomy of human cadavers, the table for the long period of time and study manually, we didn't get to do those stuff. I feel like that is the kind of exposure that we lack that really affected how I personally mastered anatomy. I wouldn't say I really mastered anatomy. As i go through the years as medical student, we are coping with that. I think it's more on understanding the anatomy is the most part. Especially if you are dealing on surgery and you are being asked questions which structures the Senior doctors are pointing to, what's it in you grades."</i>
The Implications of Cadaver Insufficiency on Medical Education and Training	<i>"But I also think na if human cadaver shortage indeed continue, it sort of also forces a lot of innovators and a lot of educators to improve the alternative learning resources for teaching anatomy."</i>
Navigating Educational Challenges in Medical Training During the COVID-19 Pandemic	<i>"I said earlier how well we were taught with the alternative learning methods naman. So, it might be good to either have more or ma-integrate yung variations na yun in the alternative learning resources that we had. A large part of medical education would still rely on our actual clinical encounters or learning about anatomy and reinforcing our anatomy lessons for the procedures."</i>

Note: Themes were identified based on the students' discernment on the potential consequences of the perceived insufficiency of human cadavers on the quality of medical education.

CONCLUSION

The insufficiency of human cadavers in medical education presented significant challenges for the training of medical students, as highlighted in the responses and various studies. Through the exploration of data collected from fourth-year medical students, the research uncovered a spectrum of innovative approaches to anatomy education. The feedback provided by the participants underscored the importance of embracing and adapting to these strategies. The study identified key concept themes that underpinned diverse innovative anatomy education strategies among fourth-year medical students at UPCM, including innovative approaches to anatomy education, the integration of technology in the absence of cadavers, and the implementation of effective learning strategies to optimize anatomical education. It is recommended that the Philippines legislature should be informed of the cadaver insufficiency in medical education in research. Furthermore, local communities disseminate

information about the eclipsed issue of human cadavers. These seminars will be the starting point for placing medical issues in education and research in the mainstream and making them noticed by many. The said seminars are expected to encourage discussions and open conversations about taboo issues such as human cadaver-related ones.

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DECLARATION REGARDING GENERATIVE AI IN SCIENTIFIC WRITING

The authors declare that no generative artificial intelligence (AI) or AI-assisted technologies were used at any stage of the study.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest relevant to this study.

<https://www.upmas.org/feature/dissect-class-1978s-focused-contribution-to-anatomy-education-at-the-upcm>.

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