

# A pilot study on school of medicine students' perception of ethical issues related to human specimens in anatomical museums

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**Abstract.** *Background and aim:* Anatomical museums provide an integrated and multidisciplinary education to address complex ethical issues. To date, studies investigating students' attitudes toward preserved and displayed human remains in research laboratories is limited. The study aims to explore students' emotional responses to anatomical collections preserved in university museums and the role that such museums can play in students' ethical education. *Methods:* First-year medical students from the School of Medicine at the University of Genoa were invited to complete a questionnaire after a guided visit to the Museum of Human Anatomy in October 2023. *Results:* the 201 students who answered the questionnaire expressed high agreement on the retention and exhibition of human specimens and the learning opportunities it offers (91.7% and 97.3% of students, respectively). This high agreement also regarded the ethical issues related to their profession, with a high percentage of students considering this exposition an ethical learning opportunity (84.3%) and thinking that education in medicine should also imply ethical issues both in general (89.8%) and in regard to human specimens (86.1%). The agreement was also high regarding the ethical acceptability and importance of post-mortem donation of bodies for medicine education, although only 56.9% of responses indicate high agreement with post-mortem donation of their bodies to anatomical institutes. *Conclusions:* Overall, medical students express a significant positive interest in this educational context and its ethical acceptability. These data can impact medical education by shaping future teaching practices and integrating ethics into the medical curriculum. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** anatomical museum, anatomy, cadavers, human remains; anatomy education, cultural heritage museum education

## Introduction

The teaching of anatomy, recognized as the oldest discipline within the medical sciences, has undergone significant transformations over the centuries. In the past, cadaver dissection stood as an irreplaceable cornerstone in the medical education process. However, at least in Italy, there is a pronounced decline in the use of cadavers for educational purposes (1,2). This trend

is influenced by various reasons, including the increasing difficulty in obtaining cadavers expressly and voluntarily donated for educational purposes, as well as the availability of modern alternatives such as artificial plastic models, 3D digitalized organs, and plastinated specimens (3).

In this transformation, university anatomical museums are a precious heritage of the past, when anatomical institutes worked extensively with cadavers.

The presence of these museums not only safeguards the history of anatomical education but also testifies the transition toward more modern methodologies. These institutions serve as a bridge between the past and the present, offering a unique perspective on the practice of dissection and the evolution of anatomy as a science.

In addition, these museums serve as multidimensional and dynamic platforms that enable students to address complex ethical issues related to life, death, and medical practice. Through the analysis of historical finds and pathways of knowledge, as well as the intricate ethical issues related to the use of the human body and its parts, anatomical museums can provide students with an education that allows them to approach contemporary moral and social issues more conscientiously (4, 5). These issues include the authorization to use ancient anatomical specimens or bodies or parts thereof for educational and research purposes, sensitivity towards cultural and religious beliefs, respect for the deceased and their descendants, and post-mortem body donation (PMBD).

These predominantly university-owned museums face significant challenges, at least in Italy, stemming from the scarcity of allocated resources. Additionally, there is a lack of clarity and gaps in museological and legislative/ethical aspects, preventing the proper enhancement of these structures within the educational curriculum for future medical professionals (6).

This study presents the findings of a pilot investigation conducted on first-year medical students who visited the Anatomical Museum – Human Anatomy Section – at the University of Genoa (Northern Italy). The visit was part of an educational program guided by anatomy, history of medicine, and bioethics professors, as outlined in the first year of the curriculum.

To date, research exploring students' attitudes and emotional responses toward preserved and displayed human remains (HR) is limited. Existing studies mainly focus on the emotional impact of anatomical dissection on students and its use to teach human anatomy (7). Thus, the literature has not thoroughly examined the potential role these museums can play in student education.

The emotional perception of HR from the past significantly differs from that of cadavers used in

anatomical dissection. The temporal distance of the specimen and its morphological characteristics (complete or partial skeletons, mummies, and desiccated specimens), considerably different from a fresh cadaver, can mitigate the emotional impact. However, the unique nature of these specimens cannot avoid eliciting an emotional response, which proves to be of fundamental importance when exploring the function of anatomical institutes that house them, particularly in relation to the complex ethical issues surrounding such specimens.

Exploring these emotional nuances and considering ethical issues inevitably ties the preservation of HR to the broader context of anatomical museums, prompting a thorough and conscientious analysis of their conservation and display.

The objectives of the survey were to acquire information on:

- Medical students' perception of ethical issues related to HR preserved in anatomical museums and PMBD for educational purposes;
- Personal attitudes regarding the possession and exhibition of HR for educational and scientific purposes;
- Awareness of ethical issues related to HR before the museum visit;
- Perception of ethical relevance related to HR and PMBD in the medical study course and professionalism;
- Explore the existence of emotional or ethical discomfort during the visit to the anatomy museum.

## Materials and methods

### *Enrolled students and museum visit*

The study was addressed to the students attending the first year of the School of Medicine and Surgery at the University of Genoa (Italy). Most of these students were Italians (97,5%), primarily from Northern Italy (96.0%), with half of them residing outside Liguria, the geographical region where Genoa city is located, mainly from Lombardia and Piemonte.

64,3% of the students were females and 35,7% were males. These students had the chance to participate in a guided tour of the Anatomical Museum – Human Anatomy Section – at the Department of Experimental Medicine, University of Genoa in the ambit of the Human Sciences course.

This museum displays two mummies (male and female), twelve complete skeletons and about a thousand skulls. Signs placed before the museum entrance inform visitors about the unique nature of the preserved specimens. Additional signs within the anatomical rooms urge visitors to exercise attention and respect in handling these specific specimens, explicitly emphasizing their contribution to the advancement of medical science.

The visit was coordinated by anatomy, bioethics, and history of medicine professors, who introduced the students to the purposes of anatomical museums, the transformations of their role in conveying scientific knowledge, and the key ethical issues related to the detention and display of such specimens. They also discussed the challenges associated with the limited knowledge regarding the origin of bodies and the moral aspects linked to PMBD to anatomical institutes, consent, and respect. Where available, students were provided with information regarding the age, cause of death, and any morpho-pathological elements evident from the specimens.

### *Questionnaire*

Following this visit to the anatomical museum, an anonymous questionnaire was conducted to assess the students' perceptions, attitudes, and awareness toward HR and PMBD. This questionnaire consisted of 18 closed-ended questions (Q) aimed at exploring the appropriateness/utility of preserving such specimens in anatomical museums for medical learning; the perception of moral issues related to the unique nature of these specimens; the emotional impact regarding the HR preserved in the museum; and the attitude toward PMBD. A translation of the questionnaire from Italian is attached (Table S1). The questionnaire was delivered through an online survey created using Wooclap (<https://app.wooclap.com>). The study design and questionnaire content were approved by a committee

comprising an anatomy professor, a statistics professor, and a bioethics and history of medicine professor. Following the highest ethical standards, participants were informed that their participation was entirely free and voluntary, the questionnaire was anonymous, and they could omit questions they preferred not to answer or withdraw from completing it at any time. The responses were assessed on a Likert-type scale from 1 to 10, with 1 indicating the lowest agreement and ten the highest agreement. The scores were subsequently grouped as follows: scores from 1 to 3 indicate high disagreement, while scores from 8 to 10 indicate high agreement.

### *Statistical methods*

Data were analysed through descriptive statistics. Scores are reported as percentages of students attributing each score out of all the students answering to that question, and also summarized as medians for each answer. For clarity purposes, also the mean is calculated. High agreement means scores between 8 and 10 and low agreement mean scores between 1 and 3, if not differently specified.

## **Results**

Two hundred eighty-six students who participated in the guided visit to the anatomical museum were asked to complete an anonymous questionnaire. Two hundred one accepted, with a response rate of 70.3%.

Fourteen participants showed a percentage of missing responses equal to or greater than 50%, all limited to the second part of the questionnaire, as if disinterested in completing the questionnaire, and were thus excluded by the following analyses.

The percentage of answers for each score and high and low agreement, categorized respectively as scores between 8 and 10 and scores between 1 and 3, are reported in Table 1, together with the percentage of missingness, mean, and median for each question.

An overview of each score and their distribution in the students' answers is represented in Figure 1.

A considerable percentage of respondents (91.7%) expressed a high agreement regarding the detention

**Table 1.** The percentage of score and high and low agreement.

	% NA	% 1-3	% 8-10	Mean	Median
Q1	3.2	1.1	91.7	9.2	10
Q2	0.5	0.5	97.3	9.6	10
Q3	1.1	0.0	84.3	8.9	9
Q4	0.5	3.8	69.9	8.1	9
Q5	1.6	8.7	54.3	7.2	8
Q6	0.0	1.6	89.8	9.0	10
Q7	1.6	13.6	57.1	7.2	8
Q8	0.0	0.5	86.1	8.9	10
Q9	1.6	9.2	47.3	7.1	7
Q10	0.0	5.3	71.1	8.0	8
Q11	2.1	81.4	7.7	2.3	1
Q12	1.6	1.1	84.8	8.9	10
Q13	1.6	0.5	84.2	8.8	10
Q14	1.6	37.5	17.9	4.6	4
Q15	1.1	0.5	91.9	9.4	10
Q16	3.2	19.3	56.9	6.9	8
Q17	2.7	4.4	57.7	7.5	8
Q18	2.7	18.7	36.8	6.3	7

Abbreviation: NA: Not Answered.

and display of HR in anatomical institutes for educational and scientific purposes (Q1). The detention and display of HR were considered both an important learning opportunity (high agreement by 97.3% of respondents, with 79.6% indicating a score of 10, Q2) and an ethically appropriate method for medical learning (84.3% of high agreement, Q3).

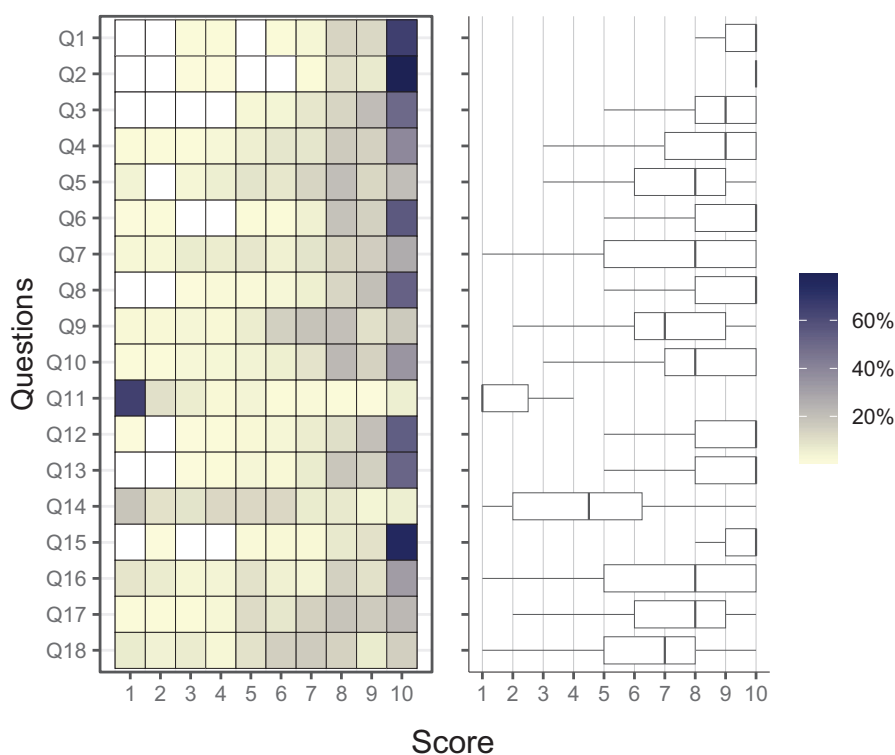
The possibility that even the non-scientific community can freely access HR exhibited in museums to broaden scientific understanding is highly agreed by 69.9% of interviewees (Q4), although at a lower extent than for medicine students. Concerning ethical issues related to the detention and exhibition of HR in university anatomical museums, both in terms of importance attributed before the visit to the museum (Q5) and respect and dignity issues that might arise (Q7), the agreement was high, with a mean score of 7.2, although the percentage of high scores was less pronounced (54.3% and 57.1% respectively) and a few respondents showed high disagreement (8.7% and 13.6% respectively). There is also a general high

agreement by most of the students that ethics (89.8%, Q6) and ethical implications related to HR detention and PBMD (86.1%, Q8) should be integrated into medicine education. Accordingly, these ethical implications were considered relevant also for future medical practice (71.1%, Q10). The data show that 9.2% of the interviewees disagree on having been influenced by the visit to the museum on their perception of ethical issues related to HR. In comparison, a percentage of close to half of the interviewees (47.3 %) expressed a high level of agreement (Q9).

The majority of responses, 81.4%, indicate a low level of discomfort during the anatomical museum visit, while 7.7% report a high level of discomfort (Q11). For what concerns PBMD, most students strongly agree that PMBD can benefit medical education (84.8% of responses, Q12) and is ethically acceptable (84.2%, Q13), with very few students expressing strong disagreement (1.1 and 0.5%, respectively). A large percentage of respondents (91.9%) considers obtaining informed consent for PMBD extremely important (Q15). Nonetheless, 37.5% of the students had minimal information about PBMD before visiting the anatomical museum, while only 17.9% were well informed (Q14). In addition, only a slight majority of respondents (57.7%) believes that the dignity of the donor is maintained during the use of their body for educational purposes (Q17), although very few strongly disagree (4.4%). Finally, regarding the idea of donating their own body, 56.9% of responses indicate very high agreement with PMBD to an anatomy institute to promote the education of other students and doctors, while 19.3% of responses strongly disagree (Q16). After the museum visit, 36.8% of students considered donating their bodies for educational purposes, while 18.7% did not (Q18).

## Discussion

The ethical considerations for HR preserved in the University anatomical museums, classified under the ICOM (International Council of Museums) code as culturally sensitive material, remain limited in Italy (8-10). From this perspective, the broad agreement expressed by almost all interviewees (91.7%) regarding



**Figure 1.** Summary of the answers to the survey. The left panel shows the frequency of the scores observed in the 18 questions. The white tile represents scores never associated with the individual question. The right panel shows the score distribution for each question. The vertical line represents the median score, the box the interquartile (2nd and 3rd quartile) and the whiskers the 95th percentile.

the detention and display of HR in these anatomical museums (Q1) constitutes a significant indicator of the common perception of the relevance of this practice in the academic and scientific field.

The high degree of agreement expressed by 69.9% of interviewees regarding the importance of providing access to HR even to the non-scientific community (Q4) prompts complex reflections on scientific dissemination and the interaction between academic research and the broader public. This strong consensus reflects a widespread desire to engage the public in scientific issues and highlights anatomical museums' educational and informative potential in contemporary society. Of note, a survey conducted by the Museo Egizio in Turin, Italy, indicated that a high percentage of respondents (84.9%) strongly believe in the historical and exhibition importance of HR, expressing a preference for their display in museums for

the benefit of the entire community rather than their storage in warehouses or use solely for research purposes (11).

This orientation is in harmony with scientific literature, which indicates the significant role these specimens can play in educating society, particularly in dispelling prejudices and stereotypes from the past (12).

The need to involve the general public in exploring the biological archive represented by HR inevitably raises ethical questions that demand careful consideration. The controversy surrounding the legitimacy of displaying human bodies is a hot topic, leading to significant responses, such as Biden's new tribal consent laws forcing the NYC Museum of Natural History to close Native American exhibits in the absence of the prior consent of the tribes (13). In Italy, however, we can recall the Court of Cassation's decision confirming

the legitimacy of the Turin Museo Egizio to detain and exhibit Vilella's skull (14-17).

Addressing the ethical issues associated with the display of HR is an inevitable imperative that requires identifying a balance between respecting ethical implications and advancing scientific knowledge. However, providing access to this material for a "non-technical" audience necessitates precautionary measures, not only to ensure the strict adherence to professional standards and the consideration of the interests and beliefs of the communities, ethnic groups, or religious affiliations from which these specimens originate, but also to adequately anticipate potential emotional reactions such as discomfort, fear, and repulsion.

The substantial consensus expressed by almost all of the interviewees (97.3% for human rests and 84.8% for donated bodies) in considering the management of these specimens in university anatomical museums as a significant learning opportunity (Q2, Q12) reaffirms agreement on their placement within these scientific institutions.

Beyond serving as educational tools for anatomical learning, these specimens can play an essential pedagogical role, introducing students to the fragility and precariousness of existence and promoting human and ethical values such as solidarity and respect, as well as greater awareness and sensitivity among future medical professionals regarding the needs and emotions of patients. Communication, indeed, constitutes a pivotal aspect of medical practice, and medical students must be adequately trained to communicate empathetically and respectfully with patients, their families, and other healthcare team members.

The possibility of achieving these objectives requires a careful choice of language, as it is commonly understood that collections of HR are not assimilable to any other naturalistic specimens but are unique assets derived from individuals and, as such, laden with culture, memories, and individual and collective stories (18).

The prevailing perception (84.3%) of the detention and display of HR in museums as ethically appropriate for medical learning (Q3) suggests that students duly recognize the formative and scientific benefits of this practice in medical education. Indeed, medical education could benefit from a deeper exploration of the

ethical implications related to the use of HR through targeted educational actions aimed at promoting a more thorough ethical understanding. Accordingly, a high percentage of responses (86.1%) express a high level of agreement on the fundamental importance of educating students (Q8) on the ethical implications of the detention of HR and PMBD for educational purposes. These data are fascinating, considering that ethical reflection has traditionally been limited, as evidenced by the scant scientific literature on the subject in university anatomical museums (19, 20).

The topic of PMBD has indeed received increased attention in Italy in recent years, also by the Italian Bioethics Committee, although scientific literature in this area remains somewhat limited (21, 22).

The relevance of the symbolic value associated with the body, especially in post-mortem donation, necessitates implementing a comprehensive training strategy aimed at stimulating responsibility towards current and future generations.

Education of medical students in this context is critical, as future health professionals can play a communicative and educational role in promoting the ethical and solidarity act of PMBD, explaining the benefits it brings to the scientific community and, consequently, the entire population. Physicians may, in fact, be called upon to discuss such matters with the deceased's relatives or the community at large.

The fact that a considerable share of interviewees (37.9%) expresses an intermediate position of accordance on the fact that the donor keeps his dignity intact during the educational use of his PMBD involves an important element of complexity to the debate which requires further investigation (Q17). This diversity of opinions may stem from various cultural, moral, or personal perspectives concerning the perception of dignity within the context of medical education. An essential consideration is that the perception of the potential to preserve the donor's dignity may directly impact the willingness to donate one's body for educational purposes.

The finding of a high level of accordance by 86.01% of the interviewees on the importance of educating students on the ethical implications of the detention of HR and PMBD (Q8) should encourage further educational actions aimed at a more in-depth

understanding of ethical issues, a field that still suffers from severe information and training gaps among medical students (23). On the other hand, the broad interest in the general ethical issues that health professionals can face in their professional practice seems to be confirmed by the significant percentage of responses (89.8%), which indicates a high degree of accordance with the need to integrate ethical issues into medical education (Q6). This observation is in line with the ethical value of informed consent and its necessity for PMBD appraised by almost all of the respondents (91.9%) (Q15).

The guided tour methodology not only facilitates students' learning of human anatomy but also serves as an effective educational tool: students who are emotionally well-prepared for the initial encounter with a cadaver would also be better equipped, highlighting the importance of comprehensive preparation not only from a technical perspective but also ethically and emotionally (24).

The literature indicates a higher and potentially traumatic discomfort rate with cadavers, even inducing symptoms of post-traumatic stress disorder (25, 26). Conversely, most participants (81.4%) reported a limited level of discomfort (Q11). This might be related to a more limited emotional impact reaction towards "past" HR, compared to cadavers and their dissection, and could be influenced by the students' preparation before the guided tour, or have been influenced by the museal specific environment, perceived as respectful of HR. The theme of exhibition methods is ethically sensitive since it can not only emotionally impact visitors' perceptions but also alienate the user's perception regarding the human origin of these specimens, favoring a purely reductionist view that equates them to mere objects (27, 28). Studies suggest taking precautions to confer greater sacredness to such specimens (29-31). On the other hand, the highest level of discomfort, albeit expressed by a minority of responses (7.7%), should not be overlooked. This minority might be exposed to significant psychological traumas when exposed to cadaver dissection, and it is crucial to closely examine the reasons behind this higher discomfort.

Investigating these concerns can guide ethical museum practices and promote greater transparency. Anatomical museums might provide informative

materials that can help mitigate discomfort by preventing misunderstandings or proposing reflective discussion. Previous studies have suggested integrating humanities teaching, promoting peer discussions, and including reflective writing in the curriculum to help students understand death, ethical dilemmas, and transitions experienced in the anatomy lab (32).

Fascinating is the data that reports a high level of accordance (8-10) on the donation of one's body post-mortem by a (limited) majority of the responses (overall equal to 56.9%) (Q16). This data highlights a positive trend among students who not only recognize the importance and the ethical acceptability of this procedure (highly agreed by 84.8% and 84.2% of the students) but are also willing to directly support this initiative, although at a lower extent. Notably, a considerable percentage of responses (19.3%) express disagreement or uncertainty. This observation seems indicative of the propensity to prefer the use of cadavers donated by others rather than the willingness to donate their bodies. However, this data raises the opportunity to investigate the underlying motivations behind this inclination. Exploring the motivations behind this dissent can provide valuable insights to address students' concerns and enhance communication on the importance of PMBD for educational purposes.

The reasons could be related to a lack of information among students regarding the moral and scientific value associated with such a gesture, or they may stem from personal discomfort related to the prospect of making a choice involving their bodies. A thorough analysis of these factors could provide significant insights to fully understand the dynamics underlying medical students' perceptions regarding ethical issues related to PMBD. Understanding these motivations could guide the implementation of targeted initiatives to address emerging concerns and promote a more favorable perspective toward PMBD.

It is interesting to note that only a limited percentage of responses (36.8%) indicates a high level of accordance regarding the museum experience stimulating reflection on the altruistic act involving one's own body, while a higher percentage has assigned medium scores (Q18).

The data highlighting that a significant percentage (close to half) of respondents expresses a moderate

accordance regarding the influence of the museum visit on the perception of ethical issues related to HR (Q9) suggests the opportunity to maximize the educational potential of such experiences. Pedagogical approaches could be implemented to deepen the discussion on ethical dilemmas, fostering critical reflection and enhancing a more comprehensive understanding of the moral and social aspects associated with the management and exhibition of HR in anatomical museums. Strategies might involve integrating anatomical information more closely with historical, scientific, and cultural contextualization, creating a more complete and nuanced framework for medical students. This approach could foster a deeper understanding of practices and beliefs related to death in different eras and cultures, encouraging a more open and respectful perspective. Presenting case studies or guided discussions on ethical dilemmas associated with using HR for educational purposes could stimulate greater critical and responsible awareness, forming more ethically oriented medical professionals. In addition, providing support resources, such as informational materials or in-depth sessions, is crucial to enable students to process the emotions and reflections triggered by the visit thoroughly. This can help mitigate potential emotional distress and promote an empathetic and inclusive learning environment.

The observation that a high percentage of responses (71.1%) considers understanding ethical issues related to HR as extremely important for future medical practice (8-10) (Q10) seems to support the hypothesis that the museum visit experience may have exerted, at least in part, a significant impact even in analyzing previously less-known ethical issues, such as body donation (Q14).

## Conclusion

The surveyed medical students have demonstrated a strong consensus regarding the significance of ethical considerations pertaining to human remains in museums and academic institutions, as well as in the practice of post-mortem body donation. It is crucial that university education incorporates training on the ethical dimension of human remains and the respectful

management thereof as an integral component of medical students' educational repertoire. Additionally, it is crucial for the training of future physicians to encompass education on the importance of post-mortem body donation and adequately prepare them for their communicative role, ensuring they possess appropriate communication skills.

Notably, the survey results have highlighted a strong inclination among students toward utilizing donated bodies for educational purposes. However, it is important to underscore that this approval is most pronounced when it pertains to the use of bodies donated by individuals other than themselves. This phenomenon can be interpreted as a greater openness to using human remains for educational and research purposes, provided it does not directly involve their own bodies.

In conclusion, an understanding of the ethics associated with the management of human remains and post-mortem body donation is fundamental to the training of future physicians. This awareness and developed communication skills will ensure that physicians can address ethical issues and debates surrounding the use of donated bodies for medical research and education with sensitivity and competence.

Enhancements to anatomical museum visits should cultivate a rational and compassionate exploration of death, while preserving individual sensitivities. Strategies may encompass closer integration of anatomical information with historical, scientific, and cultural contexts, creating a comprehensive framework for medical students. This holistic approach facilitates a profound understanding of death-related practices and beliefs across diverse eras and cultures, fostering an open and respectful perspective. The inclusion of case studies and guided discussions on ethical dilemmas related to the use of HR for educational purposes promotes critical awareness, contributing to growth in ethical consciousness of medical professionals. Crucially, providing support resources, such as informational materials and in-depth sessions, is imperative to assist students in processing emotions and reflections triggered by the visit, thereby mitigating potential emotional distress and fostering an empathetic and inclusive learning environment.



### *Limitations of the study*

**Sample size:** Our survey involved a sample of only 201 students from a single university campus, which may impact the generalizability of the results. This geographical and numerical restriction might not reflect the diversity of perspectives in different university contexts. However, it is essential to highlight that the participating students in this study come from various cities (most located in Northern Italy and outside of Genoa), underscoring a significant geographical diversity within the study sample. In addition, it might be worth noting that this investigation represents an initial exploratory step, a “pilot study”, which can contribute to outlining key themes.

### *Strengths*

**Multidisciplinary Approach:** The study’s methodology, involving educators from diverse disciplines to address ethical issues from different perspectives, represents a unique opportunity for students to acquire fundamental cross-disciplinary skills crucial for modern medical practice. The fusion of varied educational approaches can foster a more complete and in-depth understanding of ethical challenges and professional responsibilities associated with their future medical practice.

**Promoting Ethical Reflection:** The finding that a considerable percentage of respondents considered the museum experience as prompting the importance of ethical training as an integral part of medical education suggests the validity of this training approach (based on a guided tour of the anatomical museum) in the humanistic training of future health professionals.

**Ethic Committee:** Not required as this study collected anonymous questionnaire without any sensitive questions and the manuscript does not include details, images or videos related to patients.

**Conflict of Interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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## Appendix – Supplementary file

**Table S1.** Questions proposed in the survey. Assessment level ranging from 1(lowest level) to 10 (highest level).

• Q1 Express your level of accordance regarding the detention and display of human remains in anatomical institutes for educational and scientific purposes.
• Q2 How much do you agree that possessing and exhibiting human specimens can represent an important learning opportunity for medical students?
• Q3 How much do you agree that possessing and displaying human specimens can represent an ethically appropriate way for medical students to learn medicine?
• Q4 How much do you agree that the non-scientific community can freely access human remains exhibited in museums to broaden scientific understanding?
• Q5 To what extent did you consider the ethical issues related to the detention and display of human remains important before your visit to the anatomy museum?
• Q6 To what extent do you think ethical issues should be an integral part of medical education?
• Q7 How much do you agree that the presence of human remains in a museum can raise issues of respect and dignity?
• Q8 How much do you agree that medical students should be educated about the ethical implications of holding human remains and body donations in museums for educational purposes?
• Q9 To what extent did the visit to the museum influence your perception of the ethical issues related to human remains?
• Q10 Do you believe that understanding the ethical issues related to human remains is important for your future medical practice?
• Q11 Did you feel uncomfortable during your visit to the anatomy museum?
• Q12 How much do you agree that body donation for educational purposes contributes positively to your anatomical and medical education?
• Q13 To what extent do you believe body donation for medical teaching is ethically acceptable?
• Q14 How informed were you about the body donation procedure for educational purposes before your visit to the museum?
• Q15 How important do you think it is to obtain informed consent for body donation?
• Q16 How much do you agree with donating your own body post-mortem to an anatomy institute to promote the teaching of other students and doctors?
• Q17 How much do you think the donor's dignity is maintained during use for educational purposes?
• Q18 How much have you thought about the possibility of donating your body for educational purposes in the future after the experience of visiting the museum?