

An Islamic Perspective on the Usage of Bodies of the Deceased in the Teaching and Learning of Anatomy

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Abstract

Anatomy is regarded as one of the fundamental knowledge areas in medicine. Traditionally, the approach of teaching and learning of anatomy is primarily conducted through dissection of bodies of the deceased. This allows for a hands-on approach for medical students to learn anatomy. Dissection is also a method for surgeons to improve and upgrade their surgical skills and at the same time, serves as a means to test new surgical tools and techniques. However, Islam prohibits any act that can be regarded as disrespectful to the deceased. In spite of this, there is a pressing need for medical students to master anatomical knowledge in order for them to become medical doctors. This article looks at the teaching and learning of anatomy from the perspective of Islam. The article begins by looking at the history of learning anatomy. It then discusses Islam's prohibition on mutilation of the body of the deceased, conditions under *maṣlahah* that allows

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dissection to be done in medical education, and several *fatāwā* on this issue. This article also touches on the methods employed in Malaysia for the teaching and learning of human anatomy.

Keywords

Medical education, dissection, prosection, *maṣlahah*, human anatomy.

Introduction

In Islam, there are four responsibilities that must be accorded by the living to the deceased. These responsibilities make up the Muslim funeral rites, and they are washing the dead body, shrouding the body, conducting the funeral prayer, and burial. All these four responsibilities must be carried out and should not be delayed. Failure to carry out any of these responsibilities and unnecessary delay of the burial are acts of disrespect to the deceased from the perspective of Islam. The Quran gives the reminder that Allah SWT has created mankind as the best of His creations: “We have indeed created man in the best of moulds.”¹ One of the higher objectives of the *Sharī‘ah* is to protect the life and dignity of human beings. It is for this reason Islam forbids any actions that can be interpreted as undignified, harmful or demeaning to a person whether alive or deceased.

This includes the prohibition of mutilating the body of a deceased person. This prohibition does not only apply to the bodies of Muslims but also bodies of non-Muslims including enemies of Islam. Before the advent of Islam, it was a culture of the tribal Arabs to mutilate the bodies of their enemies.²

1. *Surah al-Tīn* (95): 4.

2. Kiarash Aramesh, “The Ownership of the Human Body: An Islamic Perspective,” *Journal of Medical Ethics and History of Medicine*, 2: Article 4 (2009), <https://jmehm.tums.ac.ir/index.php/jmehm/article/download/33/18> (accessed December 28, 2022); Abdul Aziz al-Qasshar, *Pembedahan Mayat Manusia Menurut Perspektif Islam*, trans.: Sumsudin Selamat (Johor Bahru: Perniagaan Jahabersa, 2010), 33–35.

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Prohibition on mutilation of the bodies of the deceased is stressed upon in a famous Prophetic tradition: “Verily the act of breaking the bones of the deceased is the same as breaking the person’s bones when he was alive.”³

Nevertheless, Islam provides for some exceptions to the prohibition even though there are differences of opinions on this permissibility depending on the different schools of thought (*madhāhib*). Most jurists from the Shāfi‘ī and Ḥanafī schools allow for the body of a recently deceased pregnant woman to be operated on to save the life of the baby in her womb.⁴ However, this view is not shared by the jurists from the Mālikī and Hanbali schools as well as some Shāfi‘ī jurists.⁵ Additionally, most jurists give permission to operate on the body of someone who had swallowed money or valuables⁶ although this concession is not allowed by jurists from the Ḥanbalī and Ḥanafī schools as well as some Mālikī and Shāfi‘ī jurists.⁷ From the perspective of classical *fiqh*, aside from these two situations, any other forms of action performed on the body of the deceased is deemed to be an act of mutilation, and therefore is strictly prohibited.

In the first few centuries of Islam, there were not many issues arising from the prohibition of mutilating the body of the deceased. It was not until the beginning of modern medicine that

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3. Abū ‘Abdillāh Ahmad ibn Muḥammad ibn Ḥanbal ibn Hilāl ibn Asad al-Shaybānī, *Musnad al-Imam Ahmad ibn Ḥanbal*, vol. 42 (Beirut: Mu’assasah al-Risālah, 2001), 431.
 4. This exception to the prohibition has been discussed in a number of writings such as: Vardit Rispler-Charm, “The ethics of postmortem examinations in contemporary Islam,” *Journal of Medical Ethics*, 19 (1993): 164–168; Dariusch Atigechi, *Islamic Bioethics: Problems and Perspectives* (New York: Springer, 2007); Abdulaziz Sachedina, *Islamic Biomedical Ethics* (New York: Oxford University Press, 2009); Abdi O. Shuriye, “Muslim Views on Organ Transplant,” *IJUM Engineering Journal* 12, no. 5 (2011): 203–208.
 5. Rispler-Charm, “Ethics of Postmortem Examinations;” Shuriye, “Muslim Views;” Al-Qasshar, *Pembedahan Mayat Manusia*.
 6. Atigechi, *Islamic Bioethics*; Sachedina, *Islamic Biomedical Ethics*; Aramesh, “The Ownership of the Human Body”; Shuriye, “Muslim Views.”
 7. Shuriye, “Muslim Views”; Al-Qasshar, *Pembedahan Mayat Manusia*.

gave rise to the utilisation of bodies of the deceased. In modern times, human bodies (or cadavers)⁸ can be used in the teaching and learning of human anatomy, as well as for research and training of surgeons.⁹ This development opens up questions as to whether Islam allows bodies of the deceased, especially those of Muslims, to be used for purposes such as the teaching and learning of human anatomy. It must be noted at this juncture that classical discussions in the different *madhāhib* do not touch on the issue of using bodies of the deceased for the purpose of teaching and learning of anatomy as this did not arise during the time of the classical jurists.

Teaching and Learning of Human Anatomy

Human anatomy is one of the fundamental medical knowledge. Anatomical dissection can be regarded as the impetus to the development of modern medicine.¹⁰ Teaching tools used in anatomy education can be divided into five categories, namely: (1) Cadaver-related; (2) Clinically-related; (3) Computer/Internet-related; (4) Other material-related (models or books); and (5) Other approaches (lectures, practical classes or problem-based learning; problem-based learning or PBL tutorials).¹¹ Until today, dissection on human bodies remains an important part of undergraduate medical education in anatomy.¹²

8. “Cadaver” is a technical, legal and medical term that is often used devoid of emotional attachment, cultural connotation and religious context. In this article, the author prefers to use the term “body of the deceased.”

9. Aramesh, “The Ownership of the Human Body.”

10. Lisa M. Parker, “Anatomical Dissection: Why are We Cutting It Out? Dissection in Undergraduate Teaching,” *ANZ Journal of Surgery* 72, no. 12 (2002): 910–912.

11. E.M. Bergman, Cees P.M. van der Vleuten & Albert J.J.A. Scherpbier, “Why Don’t They Know Enough about Anatomy? A Narrative Review,” *Medical Teacher* 33, no. 5 (2011): 403–409.

12. Connor Green et al., “Attitudes of the Medical Profession to Whole Body and Organ Donation,” *The Surgeon: Journal of the Royal Colleges of Surgeon of Edinburgh and Ireland* 12, no. 2 (2014): 73–77.

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In many universities, human anatomy is one of the first courses taught to medical students as it is considered to be one of the basics of medical science. This practice has been around for well over 500 years.¹³ The European anatomist, Andreas Vesalius (1514–1564), was one of the earliest figures in medicine to use bodies of the deceased for the purpose of teaching and learning of human anatomy.¹⁴ For his contribution to the field of anatomy, Vesalius is regarded as the Father of Human Anatomy particularly through his seven-volume magnum opus *De Humani Corporis Fabrica* published in the year 1543 which contained detailed illustrations of the human body. During this period of time, human bodies that were used would be sourced from convicted felons who had been executed.¹⁵ This practice of using bodies of executed convicts for the purpose of teaching and learning of human anatomy could also be traced in Britain between the 17th to 19th centuries.¹⁶

Prior to Vesalius, during the zenith of Islamic Civilisation, there were a number of scholars in the field of medicine who had worked in the field of human anatomy. This article chooses to briefly highlight four of them who have been recorded to have performed dissections and autopsies especially in their efforts to understand the human anatomy. They were Abū Bakr Muḥammad ibn Zakariyyā al-Rāzī (864 or 865–925 or 935),¹⁷ Abū al-Qāsim Khalaf ibn al-ʿAbbās al-Zahrāwī al-Anṣārī (936–

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13. John C. McLachlan et al., “Teaching Anatomy without Cadavers,” *Medical Education* 38, no. 4 (2004): 418–424; Brent Dean Robbins et al., “Lessons from the Dead: The Experiences of Undergraduates Working with Cadavers,” *Omega* 58, no. 3 (2008): 177–192.
 14. Darrell J.R. Evans & Samantha Fossey, “Perspectives on Anatomical Donation and Holding Services of Thanksgiving,” *Clinical Ethics* 6, no. 4 (2011): 195–199.
 15. *Ibid.*
 16. Ruth Richardson, “Human Dissection and Organ Donation: A Historical and Social Background,” *Mortality* 11 no. 2 (2006): 151–165.
 17. Ismail Anis & A.B. Khan, “Surgery in the Medieval Muslim World,” *Indian Journal of History of Science* 19, no. 1 (1984): 64–70.

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1013),¹⁸ Abū Marwān ‘Abd al-Malik ibn Zuhr (1094–1162),¹⁹ and ‘Alā’ al-Dīn Abū al-Ḥasan ‘Alī ibn Abī Ḥazm al-Qarashī al-Dimashqī better known as Ibn al-Nafīs (1213–1288).²⁰

Al-Rāzī, recognised as the Father of Paediatrics for his contributions in the field of diseases involving children, was among the earliest Muslim physicians to study the human anatomy.²¹ For his contributions in the field of medicine, he has also been dubbed the title of Arabic Galen.²² His works, in particular *Kitāb al-Manṣūrī* and *Kitāb al-Hāwī*, involved human physiology, and the understanding of the brain and nervous system.²³ However, it has been noted that al-Rāzī’s aversion to dissection prohibited him from developing this field of knowledge to even greater heights.²⁴

Al-Zahrāwī was a scholar recognised as the Father of Modern Surgery primarily through *Kitāb al-Taṣrīf li man ‘Ajīza ‘an al-Ta’līf*.²⁵ This 30-volume work touches on medicine, surgery, pharmacy and other medical branches. The last volume of *Kitāb al-Taṣrīf* focuses on surgery and is widely regarded as

18. Ibid.

19. Ibid.; Yasmeen Mahnaz Faruqi, “Contributions of Islamic Scholars to the Scientific Enterprise,” *International Education Journal* 7, no. 4 (2006): 391–399.

20. Izet Masic, “On occasion of 800th Anniversary of Birth of Ibn al-Nafīs—Discoverer of Cardiac and Pulmonary Circulation,” *Medical Archives* 64, no. 5 (2010): 309–313.

21. Al-Qasshar, *Pembedahan Mayat Manusia*, 21–22.

22. Zakaria Virk, “Outstanding Surgeons of Medieval Islam,” Centre for Islamic Studies (n.d.), <https://islamic-study.org/outstanding-surgeons-of-medieval-islam/> (accessed December 29, 2022).

23. M. Jalal Annajjar, Rawan Ebrahim & Syed Yusuf Maududi, “Through the keyhole: Analysing the contribution of Islam to the development of anatomical dissection,” *Journal of the British Islamic Medical Association* 11, no. 4 (2022): 51–58.

24. Zakaria Virk, “Medical breakthroughs in Islamic medicine,” *Alislam.org* (n.d.), <https://www.alislam.org/library/articles/Medical-Breakthroughs-in-Islamic-Medicine.pdf> (accessed December 28, 2022).

25. Nur Aqilah Karim & Roziah Sidik @ Mat Sidek, “*Al-taṣrīf li man ‘ajīza ‘an al-Ta’līf* oleh al-Zahrāwī: Manfaatnya dalam perkembangan bidang perubatan di Eropah,” *Journal of Al-Tamaddun* 16, no. 1 (2021): 111–123.

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the first book in human history to place surgery as a specific discipline of knowledge aside from being the first work that contains illustrations on surgery covering various subspecialties including ophthalmology, obstetrics, gynaecology, urology, and orthopaedics.²⁶ The monumental work of al-Zahrāwī became the major reference in the field of surgery in Europe up till the 18th century.²⁷ Al-Zahrāwī stated that knowledge on anatomy is fundamental for surgery, and suggested that dissection on the deceased is crucial in learning surgery despite objections towards this view during his time.²⁸

Ibn Zuhr, known as the Father of Experimental Surgery, was known as one of the Muslim medical scholars who had performed autopsies for the purpose of understanding human anatomy and improving existing surgical tools and techniques.²⁹ He was also perhaps the earliest scholar to differentiate between a physician and a surgeon, further defining surgery as a medical specialisation.³⁰

Ibn al-Nafis, known as the Father of Circulatory Physiology for his contribution in correcting the knowledge of blood circulation in the human body, made observations on the functions and structures of organs such as the brain, heart, and bones based on dissection on the deceased.³¹ Ibn al-al-Nafis was said to be a great proponent of human dissection in order to better understand the human anatomy.³²

An anatomy laboratory functions as a method of teaching which provides opportunities for medical students to study the

26. Annajjar, Ebrahim & Maududi, "Through the keyhole;" Nancy G. Siraisi, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago: The University of Chicago Press, 1990), 161; Anis & Khan, "Surgery in the medieval Muslim world."

27. Nur Aqilah & Roziah, "*Al-Tasrif li man 'Ajiza 'an al-Ta'rif* oleh al-Zahrāwī."

28. Anis & Khan, "Surgery in the Medieval Muslim World."

29. Virk, "Medical Breakthroughs in Islamic Medicine."

30. Ibid.

31. Anis & Khan, "Surgery in the Medieval Muslim World."

32. Virk, "Medical Breakthroughs in Islamic Medicine."

human anatomy up close in a way diagrams in textbooks and lectures cannot do.³³ A number of authors have opined that there is no substitute to actual human bodies in the teaching and learning of human anatomy because they cannot be replaced by diagrams in textbooks and computer screens.³⁴ Even with the latest technologies such as virtual cadavers, it has been found in several studies that the usage of actual human bodies in the teaching and learning of anatomy is more effective, and at the same time, medical students are taught to develop sympathy and empathy which would have an effect in treating actual patients when the students graduate to become medical doctors in the future.³⁵

As an alternative to using human bodies, the University of Plymouth and the University of Exeter to take two examples, introduced an anatomical teaching and learning approach using a problem-based learning (PBL) curriculum.³⁶ The PBL curriculum consists of four parts: (1) Students are provided with the experience of surface anatomy and the anatomy of a living person involving peer examination as well as the use of professional models when needed, supported with the use of plastic models when required; (2) Utilisation of medical diagnostic images; (3) Utilisation of virtual reality images including three-

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33. McLachlan et al., "Teaching Anatomy without Cadavers;" Robbins et al., "Lessons from the Dead."
34. Rajkumari Ajita & Y. Ibochouba Singh, "Body Donation and its Relevance in Anatomy Learning – A Review," *Journal of the Anatomical Society of India* 56, no. 1 (2007): 44–47; Sanjoy Kumar Chakraborty et al., "Body Donation and its Significance in Anatomy Learning in Bangladesh – A Review," *Bangladesh Journal of Anatomy* 8, no. 2 (2010): 85–88; Khadija Iqbal, "Impact of Dissection: Under and Post Graduate Study in Medical Colleges," *Professional Medical Journal* 17, no. 3 (2010): 490–492; Abay Mulu & Desalegn Tegabu, "Medical Students' Attitudinal Changes Towards Cadaver Dissection: A Longitudinal Study," *Ethiopian Journal of Health Sciences* 22, no. 1 (2012): 51–58; Evans & Fossey, "Perspectives on Anatomical Donation."
35. Robbins et al., "Lessons from the Dead;" Evans & Fossey, "Perspectives on Anatomical Donation."
36. McLachlan et al., "Teaching Anatomy without Cadavers."

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dimensional and four-dimensional ultrasound images, magnetic resonance imaging (MRI), and computed tomography (CT) scan; and (4) Utilisation of simulators to provide important anatomical features in various clinical settings. However, thus far, there is not enough empirical evidence to show the effectiveness of teaching and learning anatomy without the use of human bodies.³⁷

Many Muslim countries in the world today including Türkiye,³⁸ Pakistan,³⁹ Bangladesh,⁴⁰ Iran,⁴¹ and Malaysia.⁴² utilise human bodies in the teaching and learning of anatomy. Some countries such as Türkiye, Pakistan and Bangladesh face shortages of human bodies for the use in medical schools. This has led Pakistan, for example, to use a PBL curriculum in order to reduce dependency on dissections and autopsies on the deceased. The curriculum in Pakistan utilises models and specimens.⁴³ It is also interesting to note that Türkiye has been using human bodies in the teaching and learning of human anatomy since 1841 during the time of the ‘Uthmaniyyah caliphate although it is increasingly more difficult for Türkiye to get donation of human bodies for the use in medical teaching and learning.⁴⁴

There is an ongoing debate on the best way to teach anatomy to medical students. Some medical schools have reported improved students’ and teachers’ satisfaction and better learning outcomes through dissection compared to other

37. Ibid.

38. Umit S. Şehirli, Erdiñç Saka & Ozlem Sarikaya, “Attitudes of Turkish Anatomists toward Cadaver Donation,” *Clinical Anatomy* 17, no. 8 (2004): 677–681.

39. Iqbal, “Impact of Dissection.”

40. Chakraborty et al., “Body Donation and its Significance in Anatomy Learning.”

41. Aramesh, “The Ownership of the Human Body.”

42. A. Saw, “A New Approach to Body Donation for Medical Education: The Silent Mentor Programme,” *Malaysian Orthopaedic Journal* 12, no. 2 (2018): 68–72.

43. Iqbal, “Impact of Dissection.”

44. Şehirli et al. “Attitudes of Turkish Anatomists.”

methods.⁴⁵ This finding supports the view that found dissection to be the most suitable method to fulfil anatomical learning outcomes.⁴⁶ In a survey done involving professional anatomists, a similar pattern was also found where their most preferred teaching methods (in descending order) was human dissection by students, prosection, living and radiological anatomy, computer-aided learning (CAL), didactic lectures, and the use of models.⁴⁷

Despite this, different studies seemed to come out with different results on students' perception or experience on the use of human bodies in the teaching and learning of anatomy. There were positive feedbacks on human dissection,⁴⁸ reports of a medium level of anxiety during their first experience handling bodies of the deceased,⁴⁹ as well as reports of experiencing stress during the period of dissection when not enough preparation was made.⁵⁰ In Malaysia, it is found that dissection is the most preferred method of teaching and learning anatomy.⁵¹

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45. Jane Kerby, Zena N. Shukur & Joseph Shalhoub, "The Relationships Between Learning Outcomes and Methods of Teaching Anatomy as Perceived by Medical Students," *Clinical Anatomy* 24, no. 4 (2011): 489–497.
 46. K.M. Patel & B.J. Moxham, "Attitudes of Professional Anatomists to Curricular Change," *Clinical Anatomy* 19, no. 2 (2006): 132–141.
 47. Geoffrey D. Guttman, Richard L. Drake & Robert B. Trelease, "To What Extent is Cadaver Dissection Necessary to Learn Medical Gross Anatomy? A Debate Forum," *Anatomical Record Part B, New Anatomist* 281, no. 1 (2004): 2–3.
 48. Anja Böckers et al., "The Gross Anatomy Course: An Analysis of its Importance," *Anatomical Sciences Education* 3, no. 1 (2010): 3–11.
 49. Ayse Hilal Bati et al., "Anxiety of First Cadaver Demonstration in Medical, Dentistry and Pharmacy Faculty Students," *Surgical and Radiologic Anatomy* 35, no. 5 (2013): 419–426.
 50. Kevin C. Cahill & Raj R. Ettarh, "Attitudes to Anatomy Dissection in an Irish Medical School," *Clinical Anatomy* 22, no. 3 (2009): 386–391.
 51. Atikah Abdul Latiff et al., "Students' Perception on Anatomy Education in Cyberjaya University College of Medical Sciences, Malaysia," *Journal of the Anatomical Society of India* 68, no. 2 (2019): 163–173.

Islamic View on Human Body Dissection for Anatomical Teaching and Learning

Fundamentally, dissecting the body of the deceased without any reasonable purpose is strictly prohibited in Islam as this action goes against the basic principle of respecting the deceased. This is based on the status given by Allah SWT to mankind whereby mankind has been bestowed with honour and dignity as stated in the Quran to the effect that: “We have honoured the sons of Adam; provided them with transport on land and sea; given them for sustenance things good and pure; and conferred on them special favours, above a great part of Our creation.”⁵² In a long Ḥadīth narrated by Sulaymān bin Buraydah regarding the etiquette of war, Prophet Muḥammad SAW, among other things, said to the effect that: “Fight in the name of Allah and in the way of Allah. Fight against those who disbelieve in Allah. Make a holy war, do not embezzle the spoils; do not break your pledge; and do not mutilate (the dead) bodies; do not kill the children...”⁵³ This is a clear prohibition in Islam against mutilating the deceased including enemies killed in wars. However, certain *rukḥṣah* (concessions) may be given for particular purposes which are sanctioned by the *Sharī‘ah* due to certain needs arising to fulfil specific *maṣlahah* (public interest or benefit). If there is a clash between two *maṣaliḥ*, then the *maṣlahah* with the greater weight shall take precedence; and, if there is a clash between two *mafāsīd* (harms), the lesser *mafṣadah* shall take precedence.⁵⁴

52. *Surah al-Isrā’* (17): 70.

53. Muslim bin al-Ḥajjāj, *Saḥīḥ Muslim*, vol. 3 (Cairo: Dār al-Ḥadīth, 1991), 1356–1358.

54. Ahmad bin Muḥammad al-Zarqā, *Sharḥ al-Qawā’id al-Fiqḥiyah* (Damascus: Dār al-Qalam, 1989), 201; see also Muh Idris, Finsa Adhi Pratama & Lian Mulyani Muthalib, “The Using of *Maslahah Mursalah* Method as Hujjah,” *Al-‘Adl: Jurnal Studi Ilmu Hukum Islam dan Pranata Sosial* 14, no. 2 (2021): 184–197.

As mentioned earlier, during the time of the classical jurists, the issue of using bodies of the deceased for the purpose of teaching and learning of anatomy did not arise. As a result, contemporary deliberations regarding dissection for the purpose of teaching and learning human anatomy are done using the parameter of *maṣlahah* by looking at the issue of body mutilation as discussed in the classical texts. In this respect, there exists a general *maṣlahah* which benefits the general public. A medical student who studies human anatomy would later on be able to serve the community as a medical doctor, thus bringing benefit to the public at large. The importance of a medical doctor in the community cannot be denied as he or she plays a role in removing harm as well as alleviating pain and suffering due to diseases, illnesses and injuries. On the other hand, the *maṣlahah* regarding the prohibition of body mutilation is specific in nature, that is to protect the dignity of the deceased. When these two *maṣalīh* clash, namely between conducting dissection on the deceased to enable medical students to learn about human anatomy and protecting the dignity of the deceased, then the general *maṣlahah* which brings benefits to a greater number of people (the community) is given preference over an individual's *maṣlahah* which is considered to be *marjūh* (weak) by comparison.

This clash of two *maṣalīh* can be analogised to the ruling made by classical jurists regarding the permissibility to operate on the body of a recently deceased pregnant woman in order to save the life of the baby in her womb, and on the body of someone in order to retrieve money or valuables which had been swallowed.⁵⁵ While the act of dissection may literally be interpreted as an act of mutilation, there exists a stronger reasoning behind the *maṣlahah* which is in line with the *Sharī'ah* in the form of a *rukhsah*. The utilisation of bodies of the deceased for the purpose of teaching and learning contributes towards

55. Rispler-Charm, "The Ethics of Postmortem Examinations"; Atigechi, *Islamic Bioethics*; Sachedina, *Islamic Biomedical Ethics*; Aramesh, "The Ownership of the Human Body"; Shuriye, "Muslim Views on Organ Transplant".

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the protection of *maṣlahah al-darūriyyah* in some situations, and protection of *maṣlahah al-hājīyyah* in other situations; and in both these instances, human dissection would be permitted. In other words, while the original ruling prohibits any form of mutilation of the deceased, when there is a *darūrah* or *hājah* which is justifiable, the act would then be allowed.

Maṣlahah al-darūriyyah is a form of *maṣlahah* which has a direct impact on human life or livelihood whereby in the absence of this *maṣlahah*, human life or livelihood would be in jeopardy.⁵⁶ In other words, *maṣlahah al-darūriyyah* is essential, as without it, there will be disruption, chaos and risks upon human life or livelihood. Utilising the body of a deceased person is an essential component in the upskilling of surgeons. It reaches the status of *darūrah* when no other options are available to preserve the life of human beings. Dissection on human bodies benefits surgeons where it allows surgeons to enhance their surgical skills as well as experiment on new surgical equipment or techniques before they operate on living patients. This form of training on bodies of the deceased would enable surgeons to minimise errors that can risk the lives of patients. This contributes towards the general *maṣlahah* which gives benefits to the community.

The use of human bodies for teaching and learning meanwhile would fall under the category of *hājīyyah*, while not essential, is something that is deemed necessary to remove or alleviate difficulties or obstacles for medical students to learn about human anatomy.⁵⁷ In studying medicine, in particular human anatomy, the use of body specimens is a *hājah*, without which medical students would not be able to master the

56. Wahbah al-Zuhaylī, *Uṣūl al-Fiḥ al-Islāmī* (Damascus: Dār al-Fikr, 2010): 310; Idris, Pratama & Muthalib “*Maṣlahah Mursalah*.”

57. Noor Naemah Abdul Rahman, Shaikh Mohd Saifuddeen Shaikh Mohd Salleh & Mohd Anuar Ramli, “Dinamika Hukum Islam dalam Menangani Kemajuan Sains dan Teknologi Semasa,” paper presented at *The Third International Conference on Islam in the Malay World*, at the Universitas Islam Nasional Sunan Gunung Djati, Bandung, Indonesia, 29 October 2013, organised by Universitas Islam Nasional Sunan Gunung Djati and Universiti Malaya.

knowledge of human anatomy in a comprehensive manner. Any disruption or obstacle to learning human anatomy would affect the understanding of medical students, and this would have potential future impacts in their dealing with patients when they become medical doctors. It must be noted at this juncture that for the purpose of teaching and learning, the use of human bodies does not reach the status of *darūrah* for two main reasons, namely: (1) It does not directly affect the *darūriyyat al-khams* (the five essentials) viz. religion, life, intellect, progeny, and property; and (2) There are other alternatives to teaching and learning human anatomy such as computer-aided learning (CAL), didactic lectures, and the use of models.⁵⁸ Nevertheless, the non-usage of human bodies for teaching and learning of human anatomy would produce medical doctors who may not be adept with the necessary knowledge needed to treat patients.⁵⁹

The Use of Bodies for Teaching and Learning in Malaysia

From the finding of a study, the ratio of bodies of the deceased used in teaching and learning to medical students during the 1970's to the 1980's was approximately 1:8; in the 1990's the ratio was around 1:15; and after the 2000's the ratio was between 1:25 to 1:50 depending on medical schools.⁶⁰ To overcome the increasing number of medical students in Malaysia as well as the increasing difficulty to source for bodies of the deceased, adjustments to teaching and learning have been made by anatomists at medical schools. As much as possible, medical schools would endeavour to improve the ratio of bodies to medical students, but when this is not possible, other viable options would be employed. When bodies of the deceased are

58. Guttman et al., "To What Extent is Cadaver Dissection Necessary?"

59. Noor Naemah, Shaikh Mohd Saifuddeen & Mohd Anuar, "Dinamika Hukum Islam."

60. Ibid.

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scarce, the teaching and learning strategy shifts from dissection to prosection. Dissection, also known as anatomisation, is when students themselves partake in the process of operating or cutting up of the bodies to study the anatomical structure. This method allows students to obtain hands-on experience of learning using human bodies, but is only practicable when the ratio of bodies to students are good (for example, 1:8). When the number of students is high compared to the number of bodies, then prosection would be a more practical solution. Prosection is an approach where anatomical specimens are prepared prior to teaching and learning by an expert or a professional in anatomy. Students would only use the prepared anatomical specimens during teaching and learning, and they are not actually involved in preparing the specimens earlier on. Prosection is widely used in teaching and learning of human anatomy in many universities in Malaysia today.

In lieu of “wet specimens” (specimens obtained from dissected or prosected human bodies), plastinated specimens are used. Plastinated specimens are prepared from bodies which have undergone the process of plastination. Plastination is a technique used in anatomy for the preservation of body parts. Water and fat from the body parts are replaced with synthetic polymers resulting in plastinated specimens that are dry, and do not smell nor decay. This form of specimens is valuable for teaching and learning as it can be used repeatedly and lasts longer. However, compared to wet specimens, plastinated specimens have a disadvantage in that they do not show the true character, colour or feel of the human organs or tissues as these specimens have undergone the process of drying and hardening.

Some medical schools in Malaysia opt to use virtual dissection techniques which rely on computer software. This approach allows anatomy lecturers to conduct virtual dissection for teaching and learning of human anatomy to medical students. There are various software programmes to choose from, and most are interactive and can provide a three-dimensional anatomy display for the benefit of the students. Nevertheless, the down

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side to this approach is that it only allows students to learn using their sight and not their touch, and as such, students do not experience the true character or feel of actual human specimens.

In the context of Malaysia, most bodies of the deceased are sourced from bodies of non-Muslims which are unclaimed or unidentified. The use of bodies for medical purposes are governed under the Human Tissues Act 1974 which is enacted as a provision to “use parts of human bodies of deceased persons for therapeutic purposes and for purposes of medical education and research.”⁶¹ Under Section 4 of the Act, it is stated that: “In the case of a body of a deceased person lying in a hospital and unclaimed the person having the control and management of the hospital or any other person authorised by him shall be deemed for the purpose of this Act to be a person in lawful possession of the body.”⁶² If there are requests from medical schools to obtain unclaimed or unidentified bodies to be used in medical education and research, the hospital management has the authority to decide on this matter.

Contemporary Views and *Fatāwā*

In general, there are two main views from jurists regarding the use of bodies of the deceased for teaching and learning. The first view is that this act is forbidden because there are options of using alternatives, while the second view is that it is allowed because there are justified reasons based on *darūrah*.⁶³ Wahbah al-Zuhayli in *Fiqh al-Islāmī wa Adillatuhu*, stressed that operating on the deceased for the purpose of obtaining medical knowledge is permitted but this must be done under certain conditions, namely the act is not done excessively, and the dignity of the deceased is ensured and protected.⁶⁴

61. Human Tissues Act 1974 (Act 130).

62. Ibid.

63. Al- Qasshar, *Pembedahan Mayat Manusia*, 30–31, 44–45.

64. C.f. Shuriye, “Muslim Views on Organ Transplant.”

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The *fatwā* in Saudi Arabia stated that permission for operating on the deceased is given only for three reasons, and one of them is for the purpose of medical education and training. The other two reasons are to determine the cause of death in murder cases, and to research on infectious diseases in order to find ways to stop further infections.⁶⁵

In Türkiye, there is no specific *fatwā* regarding the use of bodies of the deceased for the purpose of teaching and learning of human anatomy. Views of contemporary jurists in Türkiye are primarily focused on the permissibility of deceased organ donation as well as postmortem to determine the cause of death.⁶⁶ Nonetheless, historical records have shown that in 1841, the *Khalīfah* had given permission to universities in Türkiye to carry out dissection on the deceased.⁶⁷

In Iran, which is predominantly Shi‘ah, the use of bodies of the deceased who are Muslims are permitted for the purpose of teaching and learning in the absence of non-Muslim bodies.⁶⁸ For the purpose of research, the utilisation of bodies of the deceased is allowed under the condition that informed consent has been obtained by the donor prior to death.⁶⁹

A similar view that operating on Muslim bodies are not permitted for the purpose of medical education unless there are no alternatives in the form of non-Muslim bodies is also held by al-Qasshar.⁷⁰ The same *fatwā* was also issued by the Kuwaiti Ministry of Awqaf and Islamic Affairs.⁷¹

In Malaysia, the *Jawatankuasa Muzakarah Majlis Kebangsaan Bagi Hal Ehwal Ugama Islam* (National Fatwa Committee of Malaysia), has given the view that it is prohibited for the bodies of

65. Al-Qasshar, *Pembedahan Mayat Manusia*, 112–115; Shuriye, “Muslim Views”; Şehirli et al. “Attitudes of Turkish Anatomists.”

66. Şehirli et al. “Attitudes of Turkish Anatomists.”

67. Ibid.

68. Aramesh, “The Ownership of the Human Body.”

69. Ibid.

70. Al-Qasshar, *Pembedahan Mayat Manusia*, 73–76.

71. Ibid., 137–138.

deceased Muslims to be donated for research (which by extension would include teaching and learning of medical students as well as training of surgeons). This view is based on the argument that in the Malaysian context, body donation and the use of Muslim bodies have not yet reached the status of *darūrah* as this need can be replaced by other available alternatives.⁷² This view has also been adopted in several states in Malaysia namely Pahang, Negeri Sembilan, Sabah, and Selangor. The Malaysian view is however silent on the use of non-Muslim bodies for the purpose of research, teaching and learning, as well as training.

Conclusion

There is no doubt that anatomy is an important component in medical education as it is a fundamental medical science that must be mastered by all medical students. Anatomy is regarded as the knowledge that “supports examination of a patient, the formation of a diagnosis and communication of these findings to the patient and other medical practitioners.”⁷³ Therefore, it can be argued that there is a critical need for medical students to master anatomical knowledge as best as possible. This can be achieved if the teaching and learning of anatomy is conducted in a manner that is effective. One effective way is through the utilisation of bodies of the deceased.

However, the method of using bodies of the deceased is a delicate and sensitive issue for many people. From an Islamic point of view, there is a clear prohibition regarding the mutilation of bodies of the deceased. While arguments can be made that there is a need for medical students to learn anatomy using human bodies, there still exists differences of opinions on this matter. This shows that religious belief has an

72. “Hukum Pendermaan Jasad si Mati untuk Tujuan Penyelidikan,” *Sumber Maklumat al-Ahkam al-Fiqhiyyah* (2014), <http://e-smaf.islam.gov.my/e-smaf/fatwa/fatwa/find/3> (accessed December 29, 2022).

73. B.W. Turney, “Anatomy in a Modern Medical Curriculum,” *Annals of the Royal College of Surgeons of England* 89, no. 2 (2007): 104–107.

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influence in many areas of life including in the field of medicine as religion determines how a person “perceives the world and its contents.”⁷⁴ Nonetheless, there must be continued discourse between academics and jurists from both the medical and Islamic studies fields regarding this issue.

Consequently, it is also important to acknowledge that there must be innovation in the teaching and learning of human anatomy. With rapid technological progress and the increased focus on PBL curriculum in medicine, the teaching and learning of human anatomy should not be antiquated using only traditional approaches. While traditional approaches such as using dissection is important and proven effective, it is also equally critical to realise that using bodies of the deceased may not be a sustainable method for the teaching and learning of human anatomy. This is apparent in many parts of the world where there are insufficient bodies that can be used in medical education. On top of this, the number of students enrolling in medicine has also increased compared to five decades ago. In this context, while Muslim jurists may allow for bodies of the deceased to be used in medical education under certain strict conditions, it is imperative that innovative approaches to teaching and learning human anatomy be developed in line with technological progress.

74. C. Swendson & C. Windsor, “Rethinking Cultural Sensitivity,” *Nursing Inquiry* 3, no. 1 (1996): 3–10.

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