

Review Article

Anatomy Education in Sri Lanka. Do we need unclaimed bodies?

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Abstract

Cadaver-based education is accommodated by medical institutions with the hope of producing medical practitioners with essential knowledge in anatomy which is deemed fundamental to manage the clinical problems in their day-to-day clinical practice. It appears that the contemporary anatomy education of many countries is in need of unclaimed bodies, despite controversies in their usage, to meet the educational standards prescribed by the medical institutions and national authorities. Medical institutions in Sri Lanka procure dead bodies for anatomical studies primarily, if not wholly, through voluntary body donation programmes. However, the Transplantation of Human Tissues Act (THTA) of 1987, a Sri Lankan legislative act, permits the use of unclaimed bodies for anatomical research. This manuscript aims to review the procurement of unclaimed bodies for anatomy education in historical contexts, as well as regulatory and ethical dilemmas associated with using them for anatomical studies, particularly in the case of cadaveric dissection.

Key words: unclaimed bodies, anatomy, body donation

Introduction

Cadaver-based education enables the future generation of medical practitioners to learn essential anatomy which is fundamental to manage the clinical problems in their day-to-day clinical practice. The lessons learned from studying a formerly living human being are indeed more than learning authentic anatomy, for example, they also introduce the reality of death to medical students in an early non-clinical setting. The anatomical dissection of cadavers, despite legal and ethical dilemmas in their procurement in both the past and present, has retained its popularity as an efficacious method of teaching/

learning macroscopic anatomy in many countries. However, there were medical institutions commenced their medical education without using cadavers (1, 2) and, medical institutions in certain countries, for example, Fiji, Samoa and Solomon Islands do not employ cadaveric dissections at all (3).

The dissection room experience is undoubtedly beyond learning macroscopic anatomy. It can be used to impart lessons of medical professionalism among undergraduate medical students early in the medical curriculum. Learning the ethical integrity of procedures related to handling the cadavers, from acceptance to disposal of their remains, would enable the medical students to acquire values of the medical profession and principles of medical ethics in the freshman years of medical education. Learnt values and principles would form a strong foundation in medical students which is fundamental to their future ethical based clinical practice. Knowledge on practice of high standards in the setting of anatomical dissection at multiple levels would certainly enhance the ethical viewpoint of the medical students (4).

The two common methods of acquisition of dead bodies for anatomical studies by medical institutions at present are the body donations and procurement of unclaimed bodies. The term “body donation” usually refers to the voluntary (body) donation made by the deceased while living by his/her informed consent for medical education and/or research. However, body donations made after death by the next-of-kin or other family members may be accommodated in this category.

Unclaimed bodies significantly contribute to anatomy education. An unclaimed body can be described as the body of a deceased individual whose body has not been claimed within a certain period of time as stipulated by

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the legislation of the country. Recently, Habicht J.L. et al (2018) reported that 45 out of 68 countries (66%) that used cadavers for anatomy teaching purposes in the undergraduate medical curricula procured unclaimed bodies. Among these 45 countries, the unclaimed bodies were the exclusive source in 21 countries (31%) whereas they served as the main source of cadavers in 18 countries (26%) (3). This data clearly highlights that medical institutions in many countries are in obvious need of unclaimed bodies for the successful implementation of their medical programme.

A brief historical viewpoint

Cadaveric dissection is widely used for anatomy education despite the introduction of new teaching methods for learning macroscopic anatomy. The earlier sources of cadavers include dead bodies obtained from executions, grave robbing, slave owners, and even through murders. Grave robbing was an illegal and unethical method of acquisition of bodies for which the economically and socially least privileged portion of the society was the most vulnerable (5). Grave robbing resulted in public outcry that prompted countries to enact legislation against such immoral activity and/or to search for alternative sources. For example, in 1789, the United States passed legislation against grave-robbing. At the same time, the judges were permitted “to sentence dissection to those being hanged for arson and burglary in addition to murder” (6).

In 1830 and 1833, Massachusetts (a state of the United States) enacted the laws, permitting unclaimed bodies to be used for anatomical dissection. Later, many other states of that country followed the suit and enacted that “unclaimed bodies of people who died in hospitals, asylums, and prisons would be allocated to that state’s medical schools for the purpose of anatomical dissection” (6). In Britain, the 1832 Anatomy Act, permitted the use of unclaimed bodies for anatomical dissection. This act was successful in ending the era of bodysnatching (7). However, evidence suggests that the unclaimed bodies were legally available for anatomy education since the late seventeenth century (8). In summary, unclaimed bodies have served as a legal source of cadavers for anatomy education over centuries, and their role in contemporary anatomy education cannot be underestimated.

Source of unclaimed bodies in modern era

A dead body is deemed unclaimed if it qualifies one or more of the four scenarios: In the first category, the deceased individual does not have any relatives (next-of-kin or other family members), non-related legal guardian, or friends who could accept the dead body for conducting a decent funeral. In the second category, the deceased individual does have relatives or friends, but they refuse to accept his or her dead body due to many reasons, for example, financial difficulties to organize a proper funeral, family disputes, social concerns, etc. In the third category, the identity of the deceased person could not be revealed even after extensive search. As a result, relevant authorities are prevented from informing the relatives, non-related legal guardian or friends of the deceased individual for their further action. In the final category, the deceased individual has relatives or friends willing to claim the body but they couldn’t do so within the stipulated period of time as prescribed by the legislation of the country. Unacceptance of dead bodies within the stipulated time results in disposal of such bodies as per the law of a country set in place.

Why unclaimed bodies are considered for anatomy education

The use of unclaimed bodies for anatomical studies can be viewed as a win-win situation for a country as it is beneficial for both the advancement of medical education and to solve the issue of limited spaces in the morgues, and likely in the graveyards. In a way it is also beneficial for the family members of the deceased individual as they are exempted from funeral expenses.

There are significant cultural limitations towards body donation in some societies (9). In such a situation, medical education may rely, at least partly on, unclaimed bodies.

Concerns and constraints of handling unclaimed bodies

Impact on learning values of professionalism

Cadavers are regarded as “great teachers” (10). The scope of “their teaching” is beyond anatomical sciences if they are obtained through voluntary body donation. For example, understanding the ethical principles,

procedures, and legislative requirements of body donation provides an opportunity for medical students to appreciate the importance of obtaining informed consent for healthcare procedures and respecting the differences of opinion of the patients (11). It is not realistic to expect that the use of unclaimed bodies in anatomical studies would contribute in the development of such qualities to the medical students. Instead, by knowing the fact that they dissect a once-lived person without his or her consent, the medical students may become stressful, and would perceive the cadaver as an object.

The cadavers are viewed as “first patients” (12) of the medical students. When the students learn that the dead bodies provided for their anatomy education are obtained through body bequests, they are impelled to think about the altruism and generosity of the donors and/or their family members that driven them to donate this greatest gift to medical education. The selfless act of body donation establishes a social bond with the medical students which heartens them to provide a safe, effective, and efficient patient care in their future clinical practice and always reminds them to handle their patients with kindness, empathy and due respect.

In contrast, one may argue that the utilization of unclaimed bodies would lead to moral distress for the students and is less likely to create a social bond between medical students and society as these bodies are obtained without the consent of the deceased individual and his or her family members.

Ethical concerns and conflicts

The ethical question arises if the deceased person is considered as an individual or at least a once-lived moral agent rather than an object or property. The main ethical concerns in using unclaimed bodies for anatomical studies are *disrespect* and *injustice* to the deceased person.

The use of an unclaimed body for anatomical dissection (i.e. without informed consent) could be viewed as a *disrespect* to the deceased person as his or her personal, religious, cultural beliefs with which he or she had lived are not considered before subjecting him or her to anatomical studies. As the wishes of the deceased

person regarding his or her end-of-life treatment is not known, one may argue that it could be contradictory to being subjected to anatomical dissection. In this manner, respect for a person is deemed not respected. The recommendations of the International Federation of Associations of Anatomists (IFAA) published in 2012 excludes the use of unclaimed bodies for the “donation and study of human bodies and tissues for anatomical examination”. It precisely indicates that “Informed consent from donors must be obtained in writing before any bequest can be accepted” (13). Johns DG and Whitaker MI (2012) viewed the use of unclaimed bodies as a form of exploitation since the bodies primarily of the poor and marginalized end up in this state (9). Especially, the use of dead bodies in anatomical studies that were left as unclaimed due to financial burden can be seen as an *injustice* to the deceased person. It becomes a sensitive issue to the family members of the deceased person when they realize their financial difficulties prevent them from claiming the body of the deceased. In addition, they may be prevented from expressing their views on the dissection and other procedures, and unable to speak on behalf of the deceased individual on his or her known beliefs and postmortem preferences.

The medical institutions that had obtained an unclaimed body through legal procedures may also face an ethical concern. For example, in certain instances, the family become aware of the death of a person after his or her body was declared as an unclaimed body and handed over to a medical institution. In this case, they may request the legal authorities and/or medical institutions for permission to give their last respect or even to conduct a proper funeral. In this scenario, the medical institutions face ethical dilemmas in handling the issue.

Unclaimed bodies - Sri Lankan context

Use of unclaimed bodies was common in Sri Lanka in the 1940's before independence. Body bequests gradually increased (14) but dependence on unclaimed bodies for medical education continued. Evidence indicates their usage in the 1960's at a Sri Lankan University (15). Thereafter, from the 1970's onwards, body donations became the only source of cadavers for medical education (14). Subasinghe SK and Johns DG, (2015) deliberated that all the medical institutions in

Sri Lanka procure dead bodies by donation, and most of the medical institutions in the country obtain more donated bodies than they actually need to deliver their medical course (14).

Sri Lanka, at present, legitimately permits the use of both donated and unclaimed bodies for medical education. The Sri Lankan legislation, the Transplantation Of Human Tissues Act (No. 48 of 1987) (THTA, 1987), states under the title “Power to authorize the removal of unclaimed bodies, for post-mortem examinations and anatomical research” as follows “Where any dead body is lying unclaimed in any hospital or other institution for over seven days from the date of death, the prescribed officer in such hospital or other institution may authorize the removal of such dead body for any post-mortem examination, and thereafter to any prescribed institution for any anatomical research” (THTA, 1987. Sect. 12) (16).

At present, most medical institutions in Sri Lanka exhibit information on body donation in their websites (17, 18, 19, 20, 21, 22, 23, 24, 25). In addition, the whole-body donation programme has been established in the Faculty of Dental Sciences, University of Peradeniya (26) as well. It is notable that information of another legitimate source of cadavers, the unclaimed bodies, is not generally available in the institutional websites. Thus, it is instructive to consider that the medical institutions in Sri Lanka encourage or endorse (or at least in favour of) obtaining bodies through bequest probably due to its ethical superiority. In a way, by requesting the details of next-of-kin/legal guardian/executor during provisional registration (during the lifetime of the owner) (17, 20, 23) and/or at the time, when the dead body is handed over to the institution (17, 19, 20, 23, 18), the medical institutions may ensure what they receive is not an unclaimed body. However, in a purely legal viewpoint, it is not clear whether an institution operating in the country has an option to refuse an unclaimed body, otherwise acceptable, when it is handed over through the legal procedures.

Regulatory concerns

Generally medical institutions have their own criteria for body donation in accordance with the legislation of a country. The Sri Lankan legislation

directs (any) postmortem examination prior to handing over the unclaimed dead body for any anatomical research (THTA, 1987. Sect.12) (16). It is indeed helpful to determine the cause of death and to detect any pathological conditions that may be present in the dead body. However, the body donation programmes of the medical institutions in the same country do not accept body donations if the dead bodies were subjected to autopsy or postmortem examinations (17, 19, 20), or their acceptance is subject to approval of the Head of the Department of Anatomy (18). The reason behind the decision of the medical institution is likely to ensure that all the organs and structures of the body are intact for anatomical studies. However, the discrepancy between the legislation (for procurement of unclaimed bodies) and the guidelines of medical institutions (for body donation) may confuse the stakeholders and may affect the procurement of unclaimed bodies (if any) for medical education.

One of the criteria followed by certain medical institutions for considering acceptance of a dead body for medical education is “body can be donated only after a natural death” (19, 20). However, it appears that the relevant legislation of Sri Lanka (16) remains silent on this matter.

Conclusion and recommendations

Sri Lanka, a country with long-held cultural, moral, and religious values, would take an initial step towards abolishing the provision for legitimate use of unclaimed bodies in the revision of the relevant Act. Moreover, the revised legislation could ensure that the informed consent of the donor given voluntarily during his or her lifetime is a mandatory requirement for acceptance of body donation. It would set an example in place for other countries to avoid procuring unclaimed bodies in the name of medical education and/or eliminate its legality in the relevant countries. However, as the information pertaining to the current usage of unclaimed bodies in the medical institutions of the country is lacking, one may argue that attaining the pre-defined scientific goals of dissection can be affected by eliminating the use of unclaimed bodies. This argument can be viewed undeniable on a purely scientific ground in light of increasing number of state medical institutions (20%

[from 10 to 12]), and number of students admitted to those institutions (40.498% [from 1484 to 2085) in the country (from academic year 2017/2018 to 2022/2023 [proposed number]) in order to produce sufficient number of doctors to serve the country (27, 28).

In this context, until the actual requirement of unclaimed bodies is properly audited, the following strategies are useful to consider. 1. Minimizing the refusal of acceptable donated bodies (for example, due to inadequate storage facilities) 2. Promoting the concepts of body donation at the community level (having open dialogues with stakeholders).

A practical recommendation for enhancing body donations (and minimizing the use of unclaimed bodies) would be launching a national database for body donation. In Sri Lanka, establishing a national database for body donation with limited access to ensure confidentiality by interconnecting all medical institutions would be an important strategy to minimize the refusal of bodies due to inadequate storage facilities. In this case, the donated cadavers in excess can be directed to nearby institutions where there is a shortage of cadavers. However, successful implementation of this strategy requires legal framework, proper planning, timely coordination, and necessary documentation. In this regard, the Anatomical Society of Sri Lanka (ASSL) (29) may play a pivotal role by initiating discussions among anatomists to examine the feasibility of implementing such a notion.

Body donations are based on public trust. Therefore, establishing an independent advisory committee at the University level for the purpose of ensuring transparency in procedures from acceptance of a dead body to respectful disposal of its remains would enhance the public trust, thereby likely to succeed the body donation programme.

Moving towards a meaningful humanistic cadaver-based learning, originating from the body donation, would culminate in a competent and, more importantly, compassionate medical practitioner. The ethical principles and values that the medical students had learned by handling the donated bodies in the early stage of curriculum would be expected to reflect in their actions in patient care in the clinical appointments in the subsequent years of studentship and thereafter, as a medical practitioner

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