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Review Article

PROFESSIONALISM IN CLINICAL ANATOMY BASED ON CADAVER DISSECTION: THE IMPORTANCE OF PRINCIPLESAND IDEALS

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ABSTRACT

It would be helpful for a physician to understand ethics because they encounter many of the same ethical problems and questions as any human being. However, beyond that, because of the nature of their work, there are specific moral questions and problems that arise: questions of confidentiality, patient rights, questions of life and death. An understanding of ethics can help a physician get a clearer view in these difficult cases of the issue at hand, the possible courses of action, and the principles underlying right action.

Growing numbers of medical schools have begun to realize the important relationship between medical ethics andanatomy instruction and cadaver donation. We in the anatomical sciences are standing right at the entrance of the bridge leading from college life to professional school.

This writing has been aimed to integrate medical ethics with traditional anatomy courses. Such a program greatly benefits both students and faculty by requiring them to ethically think through the issues of deathand human mortality.

KEY WORDS: Ethics, Cadaver, Anatomy, Dissection.

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INTRODUCTION

This paper had its origin in one event in Iran, distribution medical students “selfies” with cadavers in 2016. The increasing use of digital technology in society has brought with it many challenges. Information can now be shared between millions of people, on a variety of digital platforms. There are no discipline for posting pictures of body parts on social networks. Such examples highlight the risk and ease of image acquisition and distribution and potential for abuse of position, in relation to donated bodies. The ethical and social issues surrounding images arising from cadavers, now including digital images—have not previously been explored in detail.

Worldwide, there is now increasing survey of the legal and ethical uses of human bodies and of how the wishes of the individual are to be respected [1,2]. This suggests that existing standards and guidelines should be extended to include the acquisition or use of cadaveric

images. The recent event underlines the importance of a discussion of ethical practices in anatomical education. Such has revealed the need for increased attention to the ethical and policyaspects of anatomical education.

The present article is adirect result of this story and anattempt to suggest elementsof a program that would not only prevent similar instances from occurring in the future, but also serve to ensure that student education does not suffer in the process. This article explore the relationship between the dissection and medical ethics and highlights the essential involvement that can be used to promote behaviors of professionalism accessible during anatomy course.

Medical ethics &Professionalism: "Ethics" is commonly defined as the philosophical study of right actionand wrong action, also known as "morality. Anyhuman being at one point in his/her life has pondered questions of rightand wrong.

"Medical ethics" is a system of moral principles that apply values and judgments to the practice of clinical medicine and in scientific research [3]. Medical ethics is based on a set of values that professionals can refer to in the case of any confusion or conflict. It is carrying out the directives in the Hippocratic Oath. It is the expression of what will be expected of a physician. These values include the respect for autonomy, non-maleficence, beneficence, honesty, integrity, caring, compassion, team work, teaching, and mentoring and justice [4]. This applies to both the living and nonliving, such as medical research on cadavers. The Conduct of a Physician, the first book dedicated to medical ethics, is written by Ishaqibn Ali al-Ruhawi in 9th century. Also Canon of Medicine, by Avicenna have subjects about patient's right. Professionalismin the medical field is the expression of responsibility to peers and to patients. On the other hand the Association of American Medical Colleges (AAMC) Professional Task Force defines medical professionalism as ''the enactment of the values and ideals of individuals who are called, as physicians, to serve individuals and populations whose care is entrustedto them, prioritizing the interest of those they serve above their own'' [5]. Swick maintains that medical professionalism consists of abehavior by which doctors demonstrate their merit of the trust granted to them by their patients and the public [6]. With the advance of technology, primacy of economy and growing individualistic notions, the existence of the most basic and fundamental value that doctors all over the world are presumed to possess – medical professionalism – is being challenged tremendously.

Present doctors are accused to lack of empathy and compassion for their patient, which may be partly attributed to the growing socio-economic burden but also to the fact that many medical curricula do not include modules related to the conduct of the health care providers [7].

Medical humanities might, for instance, help in 'humanizing' the student cadaver encounter by bearing witness to the 'cadaver experience' for anatomists of the past, but also offering forgotten alternatives for placing present-day reactions in perspective [8]. The first years of medical school, could contribute to the developmentof basic elements of professionalism,necessary to continue medical training in the subsequent years.

Role of Gross Anatomy in Promoting Professionalism: In previous years, it was considered very strange to encounter someone who had an interest in anatomy and ethics. At best the two were seen as occupying quite separate intellectual compartments; at worst the two were incompatible. Their separation was little more than an indication that the discipline of anatomy had no need of ethics. As a journey, professionalism must be embedded in every course and activity at a medical school. Anatomy is a major basic discipline every student or professional has to learn when entering medicine or biomedical sciences [9]. Anatomy teaching in medical colleges has been traditionally based around the use of human cadaveric specimens. The practice of cadaveric dissection helps students to grasp the three dimensional anatomy and concept of innumerable variations. Through dissection, students are able to get the feel of the human tissues and structures of the human body. Thus dissection training has remained an important part of medical curriculum. It has also been called the "sharp end" of medical education.

The anatomical dissection course is now recognized as one of the first situations during medical education in which students are introduced to the professionalism of their chosen field [10]. According to Bloom's taxonomy of educational objectives, these may be derived from at least three different domains: (a) the cognitive domain, (b) the psychomotor domain, and (c) the affective domain. A fourth domain, which is gaining more and more attention, is the domain of professionalism [11]. Anatomical educational objectives must not be limited to the cognitive domain but should also address the psychomotor and the affective domain, the latter especially in the field of ethics.

The first contact with the dissection rooms is an unforgettable and important step in a young doctor's education. When newly accepted students arrive at medical school there is an excitement about their new status as medical students. Unfortunately, this excitement may be fueled by their anxiety in anticipation of their first exposure to a human cadaver. Several studies report serious psychological distress in students, indicate that anatomy is only moderately, or not very, stressful and in fact generates considerable enthusiasm and excitement among the large majority of students [12-14]. During these first few months in medical school, many of the students are not really thinking about the professional path on which they are walkingbut it is imperative to initiate the students into the meaning and responsibilities of professionalism on the first day of class.

According to the Curriculum of Ministry of Health and medical Education (Iran), the mean number of contact-hours in gross anatomy is 315, of which135 are spent in the dissection room [15]. Because of spending so much time with the students, gross anatomists probably come to know the students better than members of any other academic discipline in the medical school, and are in the position to be able to develop instruments to introduce and evaluate professionalism [16]. Gross Anatomy, with cadaver laboratory dissection, is in a unique position to preside over a rich number of activities wherebehaviors of professionalism can be taught, practiced, and rewarded. Such activities will be comparable to the behaviors of professionalism taught in clinical rotations.

Cadaver-Related Ethics: Dissecting human cadavers can be an emotionally challenging experience for medical students. Cadaver dissection is not only essential to develop knowledge and skills, at the cognitive and psychomotor levels of anatomical learning, but is also especially important in modelling attitudes as well as humanistic and ethical values, indispensable for their adequate future professional practice of Medicine [17]. The human cadaver is often the student's first contact with death and is also referred to as being the student's "first patient", whereas students prefer the "body as teacher" [18]. Their reactions to and stress towards the cadavers diminish over the period of dissection and they show a "rapid acquisition of coping mechanisms to death," a skill important in clinical practice [14]. The contact with the cadaver is, independently form the approach as first patient or teacher, a very special and unforgettable moment in medical student's academic life and may be the first chance to develop the required ethical respect for his/her future patients. Cadavers used by medical schools are usually unclaimed bodies. Occasionally they are donated by relatives of the deceased, to teaching institutions, according to the dead person's wishes [19]. Donating one's body for dissection meets the criteria for the highest levels of charity**.**

The cadaver represents the extreme dependence of a patient on his/her doctor because the cadaver cannot defend itself from any potential abuse of power. This provides moral and ethical challenges for the student, who could choose (for example) to leave the cadaver face and genitalia uncovered, or expressing demeaning comments.

Most medical schools do not have a formal curriculum in their anatomy courses designed to promote humanism, but rather elements of it [20]. Such elements include sharing identification information of the cadaver like age and history, prompting students to express their feelings on dissection, or submitting personal artistic reflections on the cadavers [21].

Images and Cadavers: As technology is developed, acquired and utilized, so also does the necessity to integrate such technologies into

society in a socially acceptable and appropriate manner. In education and research, images - in particular, digital images - are being utilized more frequently and widely as learning aids and tools [22]. At present, there is no empirical evidence available to guide the utilization of images arising from cadavers. With ever-increasing use of digital and smart technology, the risk associated with image misuse has grown exponentially. To this end, the subject of appropriate governance of such images needs to be considered, in order to protect the relationship between donors, donor families and the community.

Clearly, the issues require consideration and thoughtful development of guidelines that would help establish a responsible code of practice, yet it is difficult to address the issue without knowing what questions to ask and answer.

At present, there are no evidence-based guidelines or global standards for the acquisition and use of images of cadavers, and there remains a paucity of guidelines relating to image acquisition or use based upon empirical research. In the healthcare and education sectors, standards for the acquisition and use of images from human tissues vary widely throughout individual countries and institutions.

Potential Solutions And Considerations: As anatomy teachers, we are responsible for integrating a medical ethics education into human anatomy instruction. It is our duty to encourage students to adapt a proper attitude of respect and gratitude for the cadaveres who have supplemented their medical education. It is imperative to initiate the students into the meaning and responsibilities of professionalism on the first day of class. Expectations of the faculty need to be made clear. We must convince the students that achieving high standards of professionalism is just as important as achieving high grades

Working as member of a team: In the lab, the anatomy instructor and the cadaver are the main source of knowledge. The instructor can help students with developing a plan to work in concert with each other and in establishing new working relationships. Each student must not only work for their own academic success butcollaborate with partners at the dissection table to ensure the success of the entire group. In some cases this requires a totally new approach to studying. The purpose is to urge cooperation between members of the group in order to learn the material. In addition, exercises can be designed during which students of the laboratory group work together to achieve one goal. Individual students can not shirk their responsibilities and let someone else do all the work.

Learner-centred approaches such as problem- and team-based learning, allows for a shift from didactic instruction to self oriented learning. Dissection provides an opportunity to reflect on the "real" human body enabling them to integrate new knowledge and individualising dissection experience within the existing cognitive framework and skills.

The anatomy instructor must judge the contribution of each student to the work done.

Respect to cadaver: Cadaver dissection is an initiation into the responsibilities that the medical profession demands, such as maintaining respect for human life and recognizing patient confidentiality. It is also a rite of passage for the medical student into the medical profession. Students should learn to become comfortable with the physical reality of a deceased body. In the laboratory, the anonymity of the cadavers is preserved, unlike in clinical situations where physicians would have known the patient. Because of the anonymity of the cadavers and the inherent stress of the situation, perhaps some students may ignore or trivialize the humanity of the cadavers. Students must be remind that the cadaver they dissect are the body of former person. Religious beliefs form a part of one's identity as a person. It is important for a clinician to understand that respecting the exercise of these beliefs is a part of respecting the individual as a person.

The students who learn to treate their cadavers with respect will extend that respect to their patients. Holding memorial ceremonies for the relatives and students are an additional way to honorcadavers and recognize the nobility of body donation. Some anatomy programs promote emotional learning by encouraging medical students to participate in such activities as memorial services for cadaver donors and their

families.

The move towards a more personal relationship between students and donors has been referred to in passing over recent years. For instance, this has been in terms of the naming of cadavers [3], and the preference forregarding the body as 'teacher' rather than 'first patient' [9]. It is a view that has also been expressed by a range of other anatomists, and that has led some to provide medical students with the names as well as medical histories of the donors [23].

Anatomical educators as role models: Faculty are powerful role models for both positive and negative behaviours. Because we spend so much time with the students in the laboratory we, as gross anatomists, probably come to know the students better than members of any other academic discipline in medical school. We (anatomists) look to transform these students from individuals who have been very carefree with little, if any, responsibility into individuals who are entering a profession where they will be responsible for many important quality of life issues.

Thereby, the anatomy faculty can act as the students' first role models for compassion within their professional duties. Evidencealso suggests that trainees learn most about professionalism from role models. Role models can greatly influence attitudes and behaviors. The "hidden curriculum," the teaching and learning that occurs outside of the formal curriculum

ÿin clinic and hospital hallways, classrooms, and especially in patient rooms

ÿis a powerful influence on learners and is largely delivered by role models. There-fore, teaching and learning professionalism may be bet-ter achieved by using interactive methods such as discus-sion groups (e.g., the "challenging case"), role play, simulation using actor-patients, and team learning. Finally, professionalism is perhaps best taught by role-modeling. Learners observe and adopt the attitudes and behaviors of their role models.

Professionalism evaluation: It is imperative to initiate the students into the meaning and responsibilities of professionalism on the first day of class. Expectations of the faculty need to be made clear. The aim is to not only provide conditions for the academic "survival" of students but also demonstrate evidence of professionalism on a daily basis. The students also need to know that this professionalism is continuously evaluated. Anatomy faculty should be committed to evaluating characteristics of professionalism. Students must recognize the fact that their attitudes and values are just as important as the acquisition of skills and knowledge. This behavior must be evaluated in a valid and reliable fashion.

For this reason, during the first two years of medical school, each task should be embedded in professionalism to ascertain maximal exposure before it declines a year or two later.

Appropriate methods of evaluation and follow-up will allow early detection and remediation of unprofessional behavior. Gross Anatomy is one of the courses taken in the early phase of medical education. If this course includes cadaver laboratory dissection, it would be the ideal setting to begin an early implementation of professionalism elements.

CONCLUSION

The extensive student-faculty contact time, makes the Gross Anatomy laboratory the ideal forum for screening individuals to evaluate the expression of professional values they brought with them to medical school. Students must recognize the fact that their attitudes and values are just as important as the acquisition of skills and knowledge. Attention to medical humanities helps to develop and nurture skills of observation, analysis, empathy, and self-reflection, skills that are essential for humane medical care.

Medical humanities might, for instance, help in 'humanizing' the student cadaver encounter by bearing witness to the 'cadaver experience' for anatomists of the past, but also offering forgotten alternatives for placing present-day reactions in perspective.

We do hope that this chapter on the teaching of the anatomical sciences will help to stimulate further and deeper discussions and elaborations of the topic as a whole or several aspects.

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