

Respect for the Donated Corpse in the View of Dentistry and Medicine Students

Respeto por el Cadáver Donado en la Visión de los Estudiantes de Odontología y Medicina

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ABSTRACT: The teaching of human anatomy in universities in Brazil and around the world is accomplished mainly through the use of donated corpses. However, this methodology is threatened due to the progressive reduction of the number of corpses donated to educational institutions. This research aimed to investigate the ethical profile of undergraduate students of Medicine and Dentistry when working with the corpses during practical classes in anatomy, and to compare the students' knowledge of the law that regulates the donation and use of human cadavers as a means of learning in educational institutions. For this purpose, a sample of 106 students, 63 from the Faculty of Dentistry of Piracicaba - UNICAMP -, and 43 from the Faculty of Medicine of Jundiaí (both in the state of São Paulo, Brazil) filled a questionnaire. The data were statistically analyzed using the chi-square test, and there were virtually no statistically significant difference between the responses of the students of Dentistry and Medicine. Most students did not know the law, and 81 % (Dentistry) and 68 % (Medicine) would not donate their bodies to educational institutions. Although nearly 75 % of students have claimed that teachers emphasized the importance of respect to the donated body, 56 % of future dentists and 46 % of future physicians ensure they have heard some kind of joke about the cadaver during class, although only 4.76 % and 13.95 %, respectively, have confessed to have already presented this inappropriate behavior. Thus, it can be inferred that there is an urgent need for dissemination of the importance of body donation programs, and the teaching of ethical principles concerning to the corpse, to ensure continuity of quality of education offered in biomedical field.

KEY WORDS: death anatomy, education, cadaver, ethics.

INTRODUCTION

The teaching of human anatomy in universities in Brazil and around the world is developed mainly with the use of anatomical parts, by dissection methods of formalized donated bodies, which is a common and standardized methodology among anatomists and the scientific community (Jones, 1997; Watanabe, 1998; Mangini, 2002, Fornaziero & Gil, 2003).

The acceptance of the corpse as part of scientific experiments led to significant progress in biological

sciences and caused great advances in research and teaching; however, at the same time, it lifted up to discussion numerous issues in society, in all its fields – social, moral, legal, religious and medical.

Since ancient times, there is the tradition to worship the dead, in different ways around the world, and this practice is observed in nearly all religious tendencies. Rituals related to death, as the funeral, prayer, crying, worship, mourning, burial and, more

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recently the cremation, are commonly observed in different societies as a rite of passage, regardless of the existence or not of religious beliefs. Cultural anthropology, specifically ethnology is dedicated to the study of these rituals, among other rite of passage in society, related to birth, coming of adulthood, marriage, and death (Stanford *et al.*, 2008).

This practice is inserted, though sometimes unconsciously, in the deeper planes of the human mind, and probably before we become humans, given the question raised by some scientists who suggest that animals like elephants, chimpanzees and dogs also mourn their dead (Bekoff, 2007). In most of populations, the culture created a natural aversion to other kinds of destination given to the corpses that were not the peace of the grave, such as the voluntary donation of the body for anatomical study, organ transplant, or for any other scientific purpose (Espírito Santo *et al.*, 1981; Queiroz, 2005).

There are several factors that influence the decision of donating the body to science, from the difficult nature of the subject, the known sorrow caused by death, passing through the local culture, lack of knowledge and interest, following of religious beliefs, all demonstrated over history of using human cadavers (Watanabe; Chagas, 2001; Zhang *et al.*, 2008).

However, in recent years, the academic community suffers from a serious problem: the increasing number of educational institutions in the health sector and the significant reduction of donated bodies to teaching and research (Zhang *et al.*). In Brazil, despite campaigns for donation of bodies or its parts thereof for teaching, research and therapeutic methods, the subject is still surrounded by preconceptions and obstacles, specially represented by religious beliefs.

And, despite all the technological developments in the field of health sciences, nothing can exactly substitute the corpse when referring to the macroscopic study of the structures that make up the human body. So that the necessity of body donations in the practice of teaching and conducting researches is unquestionable among professionals in the field of health sciences (Queiroz; Zhang *et al.*; Bolt *et al.*, 2010).

In Brazil, the cases of use of unclaimed bodies for educational and scientific purposes are defined by the Law 8,501, published in November 30th, 1992.

According to this law, the destination of unclaimed bodies for purposes of education or scientific research in universities is possible, since they fulfill the requirements and procedures for the identification record of the corpse, the publicity of death, to enable any claim for burial, as well as the autopsy to verify the cause of death whenever necessary (Diário Oficial da União, 1992; Queiroz). Despite the special rule, there are increasing difficulties faced by colleges of health area for the use of corpses in anatomy classes (Vieira, 2001).

This study aimed to evaluate and compare the level of respect to the corpse in the conceiving of undergraduate students of Medicine and Dentistry, in their ethical and legal aspects; the research purposed to verify the knowledge about the legislation that regulates the use of human corpses, the donation of bodies to education institutions, as well as the ethical profile of students relative to this important study material.

MATERIAL AND METHOD

For this research, undergraduate students registered in the Discipline of Anatomy from the Faculty of Dentistry of Piracicaba (FOP - UNICAMP) and the Faculty of Medicine of Jundiaí (FMJ), both in the state of São Paulo (Brazil), were invited to participate. The sample was composed by 63 students from dentistry and 43 from medicine, aged 18 and 30, totaling 106 subjects – 38 male, and 68 female.

To the subjects of the sample it was applied a questionnaire, with five questions designed to identify the profile of the subject - age, sex, religion, discipline and period - followed by 20 closed questions, two of them with possibility of optional open justification. The questions covered topics on ethics, respect and behavior regarding the corpse, body donation for education institutions, and the legislation related to the use of corpses in classes and researches.

All the subjects volunteered to participate of the present research and for that signed a consent form, which was previously presented to the Research Ethics Committee of the Faculty of Dentistry of Piracicaba (University of Campinas, São Paulo, Brazil), which have approved the project under the protocol number 93/2009. All collected data were analyzed by chi-square test.

RESULTS

Concerning the profile of the sample analyzed, 36 % (N=38) of the subjects were male, and 64 % (N=68) were female, with mean age of 19.6 years old. Most of the sample (72 %) declared to belong to the catholic religion, followed by spiritists (10 %), protestants (9 %), those who claimed to have no religion (8 %), and followers of other religions (1 %).

Regarding the behavior and ethical attitude assumed in the classroom by the students in the presence of corpses in study, as shown on Table I, a considerable part of the sample reported to have heard some kind of joke about the corpses, though most of the sample denied having made any joke. Statistical difference was observed only when it was asked about the instructions and orientations from the teachers. For most of the students of Dentistry (74.60 %) the teachers did so, but a higher percentage (22.22 %) than students of Medicine (18.60 %) stated that this approach was not adopted by all teachers. Meanwhile, 3.17 % (Dentistry) and 4.65 % (Medicine) of the subjects ensured that they were not made aware about the proper respect to the donated corpses in classroom.

When asked about the importance of human cadavers to the learning process, most of the students of Medicine (95.35 %) and Dentistry (96.83 %) agreed that there's no other material that could replace the human body for Anatomy classes, with no significant statistical difference between the two faculties. However, more than half of the subjects in both groups (51.16 % from Medicine, and 55.56 % from Dentistry) reported to have felt some discomfort when manipulating anatomical pieces, as can be seen in Table II.

With regard to the knowledge of the students about the law 8501, which regulates body donation to educational institutions in Brazil, a significant percentage 62.79 % and 74.60 % of future doctors and dentists, respectively, claims to know about body donation to educational institutions. However, around 98 % reported not to know the Law 8501. Most of the subjects stated that would donate their organs for therapeutic purposes; however 80.95 % of Medicine students and 68.25 % of Dentistry students would not donate their bodies for educational institutions, as shown in Table III.

Table I. Behavior and ethical posture of the students of Dentistry and Medicine in the presence of a corpse.

QUESTIONS	MEDICINE	DENTISTRY	P
Have you ever heard any kind of joke or inappropriate comment concerning the corpse during class?			
Yes	48.84	36.51	0.2059
No	51.16	63.49	
Have you ever heard any kind of joke or inappropriate comment concerning the corpse during study time?			
Yes	53.49	44.44	0.3602
No	46.51	55.56	
Have you ever made any kind of joke or inappropriate comment concerning the corpse?			
Yes	13.95	4.76	0.0955
No	86.05	95.24	
Did the teacher instruct the students about respect for the corpse?			
Yes	76.74	74.60	<.0001
No	4.65	3.17	
Some of them	18.60	22.22	
Do you think it's important to have respect for the unknown corpse?			
Yes	100.00	100.00	-
No	0.00	0.00	
Do you use a lab coat during anatomy practical classes?			
Yes	100.00	100.00	-
No	0.00	0.00	
Do you use a lab coat to study alone in the anatomy lab?			
Yes	100.00	100.00	-
No	0.00	0.00	
Do you think it's important to use a lab coat in anatomy lab?			
Yes	97.67	100.00	0.2239
No	2.33	0.00	

Table II. Perception of the importance of the corpse in the lessons of Human Anatomy by undergraduate students of Dentistry and Medicine.

Questions	Medicine	Dentistry	P
Have your ever felt any discomfort on handling an anatomical piece?			
Yes	51.16	55.56	0.6560
No	48.84	44.44	
If it was possible, would you prefer not to attend practical anatomy classes?			
Yes	2.33	3.17	0.7958
No	97.67	96.83	
Do you think there is any other material that could replace the corpse in anatomy classes?			
Yes	4.65	3.17	0.6953
No	95.35	96.83	
Do you think is possible to study anatomy without using corpses?			
Yes	11.63	6.35	0.3384
No	88.37	93.65	

Table III. Knowledge of the students concerning the legislation that regulates the body donation to educational institutions.

Question	Medicine	Dentistry	P
Do you know the process of body donation to educational institutions?			
Yes	37.21	25.40	0.1933
No	62.79	74.60	
Would you donate your body to an educational institution?			
Yes	19.05	31.75	0.1494
No	80.95	68.25	
Would you donate your body for therapeutic purposes like organ transplant?			
Yes	97.67	93.65	0.3373
No	2.33	6.35	
Do you the Law n. 8.501/92?			
Yes	2.88	1.59	0.7707
No	97.62	98.41	

DISCUSSION

According Goldim (1997), the remarkable scientific and technological development in the health field has brought up to discussion many new issues that were presented to professionals in the area, especially to the doctors; dealing with birth and death, resource allocation and limits of biological research are examples of this questions. However, the use of the human body for educational purpose should be performed in accordance with ethical and legal observances.

Bastos & Proença (2000), investigated through 32 discussion groups, 384 students enrolled in the discipline of Human Anatomy at the Federal University of Rio de Janeiro (Brazil), about the ethical behavior of students related to the corpse in practical classes. The authors concluded that all students consider

respect for the corpse an ethical attitude, though they mentioned the fact that jokes were made in the laboratory and many students agreed that the corpse is not a person, but an object of study.

In 2005, Queiroz presented a study to evaluate through bioethical principles, the level of knowledge and commitment of teachers and students towards the use of human cadavers in the discipline of Human Anatomy. The study was conducted through a questionnaire applied to 723 students and 16 teachers of private High Education Institutions of the state of Goiás (Brazil). The author found that 14.6 % of students think it is not important to have respect when manipulating a corpse, and 87.6 % of teachers and 77.0 % of the students agreed that anatomy classes prepare future professionals to have emotional balan-

ce and to be more human. The same author also noted that 100 % of teachers would not accept any kind of marketing of human corpses, but 25.9 % of students would accept this trade.

In the present study, some divergence was observed between the proportion of students who reported having heard jokes or improper comments about the corpse (53.49 % and 44.44 % from medicine and dentistry respectively), and the number of students who admitted to have had such inappropriate behavior (13.95 % and 4.76 % from medicine and dentistry respectively). This difference is understandable, since the students were embarrassed to admit such attitude, and such assumption gives greater credibility to the first data cited above.

Silva (2006), analyzing medical students at the Federal University of Rio Grande do Norte (Brazil) through interviews regarding the shaping process of "being doctor" and the relationship with the event of death, found that some students argue that emotional support must be provided so that the posture of indifference does not become a formation practice; the author also emphasizes the need to keep secret the identity of the corpse, due to the fact that this information could jeopardize the progress of practical activities.

The shortage of body donations for education and research were also cited by Zhang *et al.*, who studied possible obstacles to body donation in Chinese culture. The concern about this lack of human material to medical teaching and scientific research has led to the creation of the Educational Center for Medical Ethics, in the Department of Human Anatomy at Nanjing Medical University, aiming to promote proper respect for donated corpses used in Anatomy laboratories, and with that, gain the trust of potential donors.

Bolt *et al.* analyzed the reasons why body donors had made registration in the Department of Anatomy of University Medical Center of Groningen (Netherlands), and stated that the most mentioned reasons were to contribute to the advance of medical education, with medical science, to be useful and help the others. There are even those who mention the desire to do good for future generations.

Among the reasons given for the possible donation of the own body, many resemble those found by Bolt *et al.* Undergraduates, in this study, claim that

the body donation provides grants for the advancement of science, promotes the knowledge to the next generations, and is necessary to scientific researches. In addition, students reported the importance of returning to society the opportunity they had to be able to study in donated bodies.

However, the vast majority stated they would not donate their bodies, claiming embarrassment or discomfort caused to the family, the possibility of future recognition by relatives, and religious reasons, and especially due to the lack of respect, lack of preparation and immaturity observed in their colleagues during the practical classes of Human Anatomy.

The present research showed an outstanding disparity between the students who would donate their bodies for therapeutic purposes, and those who would do so for educational institutions. The finding raises a discussion about the importance of ethical orientation regarding the human body as a study material, proper behavior when working with donated corpses, and the relevance of this method, since it can't be replaced by any other artificial material and keep the exact translation of reality. The most common reason for hypothetical organ donation was to save lives, which brings up a relevant question: would it be possible saving lives with organ transplants if not for prior knowledge, fully acquired through exhaustive studies of human anatomy thanks to donated bodies?

From the data evaluated, the authors of this research, agreeing with researchers around the world, previously cited, highlight the need for public awareness about the importance of body donation for educational and research institutions. It is noteworthy yet that anatomy teachers should instruct and orientate their students about proper respect to the unknown corpse, while maintaining constant vigilance so that inappropriate behaviors and jokes do not occur, knowing that a frame with the "Prayer to the Unknown Corpse" on the wall of anatomy lab does not replace active statement, in the aim of assuring the quality of education offered in the biomedical field.

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RESUMEN: La enseñanza de la anatomía humana en las universidades en Brasil y en el mundo se lleva a cabo principalmente a través del uso de partes de cadáveres. Sin embargo, esta metodología está amenazada debido a la reducción progresiva del número de cadáveres transferidos a las instituciones educativas. El objetivo de este trabajo fue investigar el perfil ético de los estudiantes de odontología y medicina sobre el cuerpo durante las lecciones prácticas de anatomía, y comparar el conocimiento de la ley que regula la donación y utilización de cadáveres humanos como un medio de aprendizaje en las instituciones educativas. Una muestra de 106 estudiantes, 63 del curso de Odontología de la Facultad de Odontología de Piracicaba - UNICAMP - y 43 estudiantes de medicina de la Facultad de Medicina de Jundiá (ambas ubicadas en São Paulo – Brasil), respondió a un cuestionario. Los datos fueron sometidos a un análisis estadístico mediante la prueba de chi-cuadrado. Se observó que no había diferencia estadísticamente significativa entre las respuestas. La mayoría de los estudiantes no conocen la ley, y 81 % (Odontología) y 68 % (Medicina) no donarían su cuerpo a las instituciones educativas. Aunque aproximadamente 75 % de los estudiantes afirman que los profesores enfatizan el respeto por el cuerpo, 56 % de los futuros dentistas y 46 % de los futuros médicos aseguran que han escuchado chistes y comentarios desagradables sobre el cuerpo durante las clases, aunque sólo 4,76 % y 13,95 %, respectivamente, han confesado haber cometido tal práctica. Conclusiones: Por lo tanto, se puede inferir que hay una necesidad apremiante para la divulgación de las leyes que rigen la donación de órganos y la conciencia de los cadáveres de donación, así como la enseñanza de los principios éticos de respeto por el cuerpo, para asegurar la continuidad de la calidad de la educación que se ofrece en las ciencias biomédicas.

PALABRAS CLAVE: muerte, anatomía, educación, cadáver, ética.

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