

Lack of Corpses for Teaching and Research

A Falta de Cadáveres para Ensino e Pesquisa

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RESUMO

O estudo tem como objetivo abordar a importância da disponibilização de cadáveres não reclamados e de cadáveres doados para utilização em estudos, com foco na formação de profissionais da área da saúde, no aperfeiçoamento de profissionais já formados nessa área e no avanço de pesquisas sobretudo em técnicas cirúrgicas, no âmbito de instituições de ensino e pesquisa, tanto públicas como privadas. Parece unânime, entre os autores que versam sobre a matéria, a opinião de que a utilização de cadáveres é insubstituível na formação técnica e no aperfeiçoamento do profissional. Verifica-se, entretanto, a falta do material em questão, o que, por sua vez, se deve a uma série de dificuldades aqui levantadas, como a falta de centrais de regulação que administrem o fluxo de captação e distribuição de cadáveres e a diminuição do número de cadáveres não reclamados. Configura-se, assim, o seguinte problema: por um lado, tem-se a clara necessidade de obtenção de restos mortais humanos para o ensino básico na área da saúde – em se tratando fundamentalmente das disciplinas de Anatomia –, para o aperfeiçoamento de profissionais dessa área e para pesquisa – a exemplo das disciplinas de técnicas cirúrgicas –; por outro lado, é flagrante a carência de material cadavérico, fato que, por via de consequência, vem comprometendo a qualidade final dos serviços de saúde, em especial os de caráter cirúrgico. Realizou-se aqui levantamento bibliográfico visando conhecer o estado da arte sobre a legislação vigente e os projetos de lei em tramitação no Congresso Nacional. Verificou-se que, apesar da existência de legislação concernente à matéria, é necessário haver aperfeiçoamento legislativo-normativo para contemplar as diversas demandas, incluídas as tecnologias que vêm surgindo. O processo legislativo é muito lento em face da necessidade aqui apontada, considerado o expressivo aumento do número de cursos na área da saúde. É mister, pois, que sejam tomadas medidas urgentes para suprir o passivo na área, o que deve realizar-se necessariamente por meio de regulamentação legal e normativa.

PALAVRAS-CHAVE

- Cadáver.
- Restos mortais.
- Anatomia.
- Legislação.

KEY-WORDS

- Corpse.
- Human Remains.
- Anatomy.
- Legislation.

ABSTRACT

The aim of this study is to address the importance of providing unclaimed corpses and cadavers donated for use in studies, focusing on the training of health professionals, the improvement of professionals already trained in this area and the advance of research, mainly in surgical techniques, in the scope of educational and research institutions, both public and private. It seems unanimous, among the authors who deal with the matter, the view that the use of corpses is irreplaceable in technical training and professional development. There is, however, a lack of the material in question, which in turn is due to a series of difficulties raised here, such as the lack of regulation centers that manage the flow of capture and distribution of cadavers and the decrease in the number of unclaimed corpses. The following problem is thus defined: on the one hand, there is a clear need to obtain human remains for basic education in the health area – fundamentally in the disciplines of Anatomy – for the improvement of professionals in this area and for research – such as the disciplines of surgical techniques –; on the other hand, the lack of cadaveric material is evident, a fact that, by consequence, has been compromising the final quality of health services, especially those of surgical nature. A bibliographic survey was carried out aiming to know the state of the art on the current legislation and on the Bills currently submitted to the National Congress. It was found that, despite the existence of legislation concerning this matter, it is necessary to have legislative-normative improvement to encompass the several demands, including those of the emerging technologies. The legislative process is very slow, taking into account the need indicated here, considering the significant increase in the number of courses in the health area. It is necessary, therefore, that urgent measures be taken to supply the needs in the area, which must necessarily take place through legal and regulatory norms.

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Hic locus est ubi mors gaudet succurrere vitae — “This is the place where death delights in helping life”
— Quote that adorns the anatomical theater of the University of Vienna.

INTRODUCTION

The sight of a corpse has always caused people disquiet, rarely indifference: some feel repulsed ¹ (p. 430); others are anxious and enthusiastic; others feel fearful ² (p. 305); there are those who enjoy it as morbid entertainment ³ (p. 311):

Currently (...) to share images of dying people and ruined corpses has become commonplace on the Internet, to where mostly vernacular photos and videos of accidents, wars, executions, attacks and everything else related to death have converged. ”(p. 312).

Human remains consist of the corpse itself or parts of it, the bones and ashes from its cremation, except human cells, tissues and organs intended for transplants and implants, of which transport must comply with the relevant health legislation.⁴ – corpse: a lifeless human body⁵.

The corpse, despite being discussed within the health field, is not unique to this area: it encompasses anthropological, bioethical, legislative, customs, police, legal, religious, social, economic, political, legislative, and literary aspects, which authorizes us to address the subject even in a perfunctory way, as it is an interdisciplinary matter.

This study, like all others, has partial and insufficient arguments, because it necessarily privileges certain aspects of reality and neglect others; nonetheless, it must necessarily be a contribution.

The topic seems strange and disturbing; there is some prejudice in dealing with this matter, but it is a subject of great complexity, as it involves human remains and should be treated with due respect because of the social, emotional and religious aspects involved, but also with the proper consideration.

Even the health surveillance, notary and civil registry services, and the Cause of Death Certification and Death Verification Services (SVO) may have difficulty in reporting on the

matter. The sanitary legislation applied to the subject classifies 'cadavers' as Human Remains⁴; from the legal point of view, currently the corpse has a personal right of a juridical nature⁶ (p. 5463) and "based on bioethical arguments (...) corpses should be seen as "human stock" and not as objects of any use (...)".

Although the ethical dimension of corpse handling is recognized here, one of the scopes of this study is to emphasize the technical / scientific importance of corpse handling for the training of health professionals. This importance, however, meets the difficulty of capturing and distributing corpses, and the reasons for this difficulty must be duly scrutinized in order to remedy them.

THE IMPORTANCE OF THE CORPSE FOR HEALTH PROFESSIONAL TRAINING

According to Richardson (2000:50), *apud* Kim³ (p. 327)

[...] for the study of anatomy and surgery, it was necessary for the physician to develop [...] the "clinical detachment" [...] – once dead, the human body [...] can be more readily objectified than the body of a screaming and writhing patient. This easy objectification underlines the reason why in the 1830s anatomy and, particularly dissection, were promoted as the constitutive basis of all scientific knowledge of the human body.³

It is unquestionable that healthcare professionals must have in-depth knowledge of the human body, not only as a specimen to be studied, but as a body that had life, established interpersonal relationships, had feelings. One cannot ignore the subjective processes of learners that use cadavers for their learning. Ruiz and Pessini¹ (p. 430) cleverly introduce this concern:

How does each one face this passage? It is nonetheless a ritual: the expectation, the impact, the suffering, the initiation, the fear and the pride. Different emotions for different individuals, but with identical goals. Dealing with these feelings is, in our view, intrinsically associated to how this activity is conducted by the person responsible for introducing the individual to this new universe, the way the task was founded. And these fundamentals can under no circumstances be purely biological. There are ethical, spiritual, psychological, cultural and religious values involved in the process.

It is known, however, that it is not enough to know the human body; it is necessary to have the adequate capacity to

"handle" it. However, this skill requires a great deal of training, as bodies often have different anatomies; fundamental is the transfer of knowledge obtained from cadavers to living anatomy.

In a careful study, Haddad *et al.*⁸ (p. 7) identified through a survey carried out by the Ministry of Education, that in 2008 there were 4,841 health courses in the country: Biomedicine, Biological Sciences, Physical Education, Nursing, Pharmacy, Physical Therapy, Speech Therapy, Medicine, Veterinary Medicine, Nutrition, Dentistry, Psychology, Social Work, Occupational Therapy, and most of these courses have Anatomy in their curriculum. According to the Ministry of Education Press Office⁹, in 2017 there were 5,999 courses in the health area, which represents a significant increase; this means that there is a great demand for cadavers for anatomy study, but this demand is not supplied.

Barrobecchio, quoted by Fornaziero and Gil¹⁰ (p. 143), reinforces that students have to share a few corpses for their learning. Although there are other methods of learning anatomy other than the handling of corpses, the practice of such handling is fundamental for the proper training of health professionals; due to the "difficulty in acquiring corpses, as it is very difficult to provide adequate cadaverous material for all, they just look at where certain anatomical structures are located, through "skewers", according to Siqueira Neto and Ferreira¹¹ (p. 47), placed in different points of the body. Health students need more than that to become good health professionals; the qualification of surgery-oriented students, for instance, requires committed training, as the surgeon intervenes directly in the human body, and this requires accurate technical training, with this training being performed directly on cadavers.

From a practical point of view, to perform a central venous access in the internal jugular, subclavian or femoral veins, it is necessary to have high-quality training, a great deal of skill and much experience. Prior knowledge of anatomy / physiology and perform hands-on training at simulation centers and in cadavers are required, monitored by experienced professionals: "the learning process [of the trainee] is most effective when they see, hear, interact, and perform," according to Braz² (p. 307). The "newly-deceased" body is also used as a material for learning skills, especially in invasive maneuvers of medical practice (...)"; the handling of newly-deceased bodies has been used for the teaching of medical procedures for a long time, not only in our country but also in other countries, "but its practice is rarely admitted"¹²: according to Luiza¹³ (2018), it is necessary to standardize the use of corpses in training.

Performing dermatological, cardiac, vascular, head and neck surgeries, organ implants and transplants require ex-

treme experience and extreme skill, so that qualification and training must be performed by both the trainee and the already qualified professional, in order to provide self-confidence or even allow training certain skills and propose new techniques on a corpse before performing them on living people.

Surgical residents gain significant knowledge and confidence, as well as benefit from reduced anxiety after Vascular Anatomy courses using fresh frozen corpses;¹⁴ according to Kang et al.¹⁵ (b2426), “The team also gains experience of operation room set-up, use of instruments, and patient positioning and safety”.

Organ transplantation surgeries are complex, such as vascular surgeries that require high skill, acquired only after long periods of training in cadavers and in people, under the strict supervision of qualified professionals under a competent protocol.¹⁶ (p. 1)

Marrey Neto¹⁷ (p. 2) states that the “high standard of teaching at our college is being compromised by the lack of cadavers for dissection... What can we expect from future doctors, especially surgical specialists, with no experience in dissection?” To this question, Costa et al.¹⁸ (p. 370) and Fornaziero and Gil¹⁰ (p. 143) add to the reporting of the problem by stating that “Historically, there is no doubt about this fact, since the dissection of human corpses has been essential as a research tool, and this is as true today as anytime in the past”.

It is necessary to increase the knowledge, skill and self-confidence of students from the health area since the early years of college; it takes a long time for the students to integrate this knowledge to that of other disciplines in other years because they have no solid knowledge of anatomy; Fornaziero and Gil¹⁰ (p. 142), quoting Gardner (1971), mention that:

(...) Students often come to realize the importance of anatomy only when they are next to a patient’s bedside or operating table – such a common situation in the health professional’s life when they have the opportunity to prove all the knowledge acquired during their academic life.

These authors (p. 293) state that “all are unanimous in defending Human Anatomy as the cornerstone of the learning of health professionals.” In the words of Francisco Clascá, Professor of Human Anatomy at the School of Medicine of the Autonomous University of Madrid, quoted by Mediavilla¹⁹ (p.2), one should “learn techniques by practicing on the dead to operate with less risk”.

The donation of one’s own body for teaching and research should also be the target of education, with possible donors

being not only the general population, but students of Colleges/Universities in the health area; after all, they are the most interested in the subject. This initiative is still very timid in our country, given the little request received by the Notary Public Offices, in which a declaration signed in life by the person must be made through a declaratory public deed containing the manifestation of one’s will. Universities that have procedural body acquisition structures predictably receive them more easily than the ones that do not. The Brazilian Society of Anatomy encourages this practice. The Anatomy Department of the Institute of Biomedical Sciences of Universidade de São Paulo contains a procedure with a voluntary body donor registration form intended for anatomical studies and other documents, including the legislation and clarifications that facilitate this process²⁰.

DIFFICULTY IN OBTAINING CORPSES FOR TEACHING AND RESEARCH

The following difficulties have been observed to obtain corpses for use in teaching and research:

1. **Difficulty of information;**
2. **Lack of understanding of the legislation regarding the procedures to be adopted until the final destination of the bodies;**
3. **Lack of Central Agencies that administrate the corpse distribution procedure to public and private educational and research institutions;**
4. **Lack of flow management;**
5. **Cultural and religious difficulties for the donation of one’s own body;**
6. **Decrease in the number of unclaimed corpses;**
7. **Lack of tradition and offer of corpses for study in some Colleges/Universities;**
8. **Lack of Cause of Death Certification and Death Verification Services.**

Regarding the (1) difficulty of information, it is verified that, as this is a taboo subject, it is also little addressed, even in the health area, under its legal and managerial aspects. The lack of (2) understanding of the legislation regarding the procedures to be adopted until the final destination of the bodies, the lack of adequate protocol, the lack of transparency and supervision regarding legal, notary and managerial procedures make the flow distribution difficult from places that have this material to places that need it. Regarding the (3) lack of Central Agencies that manage flow procedures, to have a (4) good collection and distribution of corpses to public and private educational and research institutions, it is necessary for the legis-

lation to regulate the body collection and distribution service, and this service should be regulated by the Executive power. It would be adequate if this service were centralized at the state level in order to have greater control and transparency regarding the procedure, as it is done in the state of Paraná [see Law 15,471 / 2007, which implements the State Council for Corpse Distribution] and supervised by the State Public Prosecutor's Office [see Resolution 2,455 / 2016].

Hence, the need for transparency about the flow functioning is emphasized [see the flowchart created by Melo and Pinheiro²³ (318-21)] and about the adequate knowledge of this mechanism, so that there is no fear of irregularities and even of illegality.

As mentioned above (5), in our country, the difficulty of donating one's own body or the body of relatives is associated with cultural and religious taboos associated to the material aspects of human bodies.

Cultural aspects sometimes facilitate, sometimes make it difficult to obtain bodies for teaching and research. Clascá, as quoted by Mediavilla¹⁹ (p. 4), states that:

"In Spain (...) there seems to be no cultural taboo in relation to the donation of bodies, which is simpler than that of organs, as it is not necessary to be young or have a good health status. However, in Latin America, the scenario is a different one. The region is not yet able to obtain enough corpses for the training of its surgeons. A little more extreme is what happens in the Muslim world, where donations are limited due to the tradition of burying the dead as quickly as possible, and the prohibition, according to some interpretations of religion, to dissect corpses. These facts force the surgeons to travel to Europe and other regions to study."

Another aspect is that (6) the number of unclaimed corpses destined for teaching and research has been decreasing. This fact, according to Diotto et al.²⁴ (16), is due to the fact that "the number of unclaimed corpses has also been decreasing each year, probably because the number of homeless individuals have decreased or because the ways to warn or find the families of the deceased have also improved". The hypothesis that the number of homeless individuals may have decreased, however, seems to contradict itself when one sees the large number of people living in the streets of large Brazilian cities. Espírito Santo et al., quoted by Melo and Pinheiro²³ (316), mention that, "In Brazil there was a verbal tradition, without further formalities, of using the bodies of homeless individuals and dead people unclaimed by their families for teach-

ing and research institutions; today, since there is legislation concerning it, there is a certain formality that, however, may represent an obstacle to obtaining corpses."

Colleges and institutions located in small municipalities (7) need this material for their activities. It so happens that many of them are detached from institutions that can provide this material. An example that illustrates this lack of access, according to the justification of Bill 4,272 / 201625, is the fact that "(...) Barretos Hospital and others in the same position have not been considered eligible to receive the bodies, as they are not characterized as 'medical schools' according to what the Law states [Law 8.501 of 1992]²⁶".

The Cause of Death Certification and Death Verification Services^{27,28} (8) would, in theory, be the largest provider of unclaimed corpses for teaching and research. In practice, however, this network is insufficient in most municipalities²⁹ (p. 1), which means that bodies are destined to the Coroner's Office (IML)³⁰, a fact that makes it difficult for educational institutions to obtain unclaimed corpses.

The structural problem of the lack of SVO and the lack of a good flow of unclaimed corpses can be attributed to the lack of effective public policy for SVOs.

OLD-FASHIONED AND LACUNAR LEGISLATION REGARDING THE CORPSE SUPPLY LOGISTICS

According to Diotto *et al.*²⁴ (p. 2), "Some developed countries, such as the United States, Germany, and Japan, already have their own body capture systems to maintain their numerous university anatomy labs, thus allowing students to get closer and closer to such a complex system as the human body".

In Brazil¹⁹, as in other countries such as Argentina^{31,32}, Turkey³³, Saudi Arabia³⁴ and Egypt³⁵, it is difficult to obtain corpses for teaching and research, which requires these countries to import them. There are several corpse-exporting countries, including the United States^{31,32} and China³⁶, a practice that is legally carried out, as evidenced by the content of a published article³² that states the existence of what is called "curious market" there: "high demand from the medical research industry ended up creating a niche of about 20 companies in the country [USA] that sell bodies and body parts or tissues on request."

Current Law n. 8.501/1992²⁶, provides for the use of unclaimed cadavers for scientific studies or research purposes. In the state of São Paulo, Provision 41/2012³⁷, which officially updates Provision/GC 16, of September 26, 1997³⁸, and maintains its content, establishes that the educational institution interested in using the unclaimed corpse should request the Transcription of Death Register in a competent civil registry

office, presenting the death certificate and arranging the publication of notices that report the death in newspapers of wide circulation; after judicial authorization, the death certificate will be issued stating that the corpse lies unburied at the requesting educational institution. The Paulista Provision CG 16/1997³⁸ was the precursor of Provision 28/2008³⁹ of the state of Pernambuco, which has the same scope. Melo and Pinheiro²³ published a detailed article on legal procedures and protocols for the use of corpses in the teaching of anatomy in the state of Pernambuco; they created a flowchart [see flowchart at p. 318-21] for the utilization of corpses for use in teaching and research, and concluded that “The regularization of procedures for receiving legally obtained corpses that have been registered in an appropriate manner resulted in trust on the part of society, encouraging spontaneous donation.” The Civil Law / 2002⁴⁰, in article 14, mentions that “It is valid, for scientific or altruistic purposes, to dispose of one’s own body, in its entirety or part of it, after death. Single paragraph. The act of disposition may be freely revoked at any time.”, although there is still a cultural difficulty regarding the subject.

There are currently three Bills on the subject in the National Congress: one concerning the importation of donated corpses and two that update Law 8.501 / 1992²⁶; they are PLS 484/2013⁴¹, PL 5,901/2016⁴² and PL 4,272 / 2016²⁵, respectively. Bill 484 of 2013⁴¹ has in its Justification:

(...) regarding the importation of corpses, its permission is intended to minimize the difficulty that our medical schools and other health education institutions are facing in obtaining bodies of deceased persons in the national territory. I propose to allow the importation only of **donated corpses**, by providing the payment or reimbursement of fees and the costs of preparation, packaging, transport and storage. I also propose that the permission for this importation be granted only to higher education institutions that demonstrate their difficulties in obtaining bodies of deceased persons in the national territory. (our emphasis in bold)

Bill 484⁴¹ seems to fill a gap in the legislation, since the importation of corpses intended for public and private educational institutions is already carried out; it represents an alternative in case of lack of corpses and gives Brazil the possibility of using material with aggregate technology in this area. The importation of fresh-frozen cadavers has advantages: appearance and consistency close to the living human body; they are easy to obtain, including the fact that parts of the corpse can be imported, which is not allowed by the local legislation for

non-imported corpses. There are, however, some disadvantages: high cost; perishability; difficulty in tracking and lack of legislation that provides for the destination of the material after its use.

In turn, Bill 5.901 / 2016⁴³, in its Justification, states that:

With the large increase in the number of colleges and the progressive decline in the number of unclaimed bodies, colleges are facing great difficulty in obtaining anatomical parts for the teaching of doctors, dentists, physical therapists and all other health professionals.

The emphasis of the current legislation is on the “medical schools”, but one cannot forget that there are courses in the health area without a medical school adjacent to them, which makes the sending of corpses to these institutions difficult; the legislation is limited by mentioning “medical schools”, which points to the need to expand the legal scope.

In turn, Bill 4.272 / 2016²⁵, in its Justification, mentions that “Over the past few years, there has been a shortage of corpses intended for teaching/research in Colleges, so much so that initiatives have begun to emerge, such as encouraging people, while still alive, to donate their bodies for study.” Based on that, the author of the Project argues that, in addition to the supply of corpses to medical schools, institutions that offer accredited Medical Residency programs should benefit from receiving the corpses.

The contents of Bill 4.272 / 2016²⁵ and Bill 5.901 / 2016⁴² complement each other and are joined; they update Law 8.501 / 1992²⁶, by giving the topic a contemporary characteristic. What could be suggested in the projects is the creation of Central Agencies for the collection and distribution of cadavers for educational purposes in each state, adding that the regulations would be carried out by decree.

Regarding the importation of this material, the purpose of teaching / training / research should be stated. Such importation is not subject to ANVISA (Brazilian Health Regulatory Agency) sanitary intervention; however, due to the fact that the tariff classification (NCM / SH) integrates the listing and procedures provided for in Chapter XXXIX of RDC 81/2008⁴³, the importation must be approved by Import Licensing exercised by the health authority – which is considered essential – at customs clearance. The importation of this material has been carried out by universities, as well as non-university institutions that provide training in corpses.

Since human remains have been imported for teaching and research activities, a form of tracking these human remains, from customs clearance to burial or cremation, should

be established either by law or regulatory decree, which constitutes a process that can be called “corpse management”.

According to Diotto *et al.*, “(...) the current legislation is weak and outdated, as it does not match the needs and demands required to supply the laboratories and universities in the country.” In this sense, it is necessary to discuss the topic and update the current legislation.

FINAL CONSIDERATIONS

The use of corpses is of great importance for the teaching of anatomy, as well as for the specialization of health professionals. In order to meet this demand, sufficient and up-to-date legislation is required. There has been an increasing demand for corpses by the existing Education and Research Institutions to train students and researchers, aiming to attenuate the mistakes that can be made when caring for living individuals and to advance research within the legal, ethical, cultural, spiritual, religious and psychological standards.

The matter needs to be dealt with in such a way as to establish all necessary controls, aiming to prevent any kind of abuse or illegal trade in this area.

The Bills under consideration did not observe the need to create Regulatory Central Agencies with the adequate protocol to direct unclaimed or donated corpses in order to meet the demands of health education and research institutions in each state.

The Legislation, as we have seen, has limitations, but it is quite undisputable, so one can conclude that there is a lack of knowledge about regulation; it is true that the regulation is fragmented and complex: in this sense, it is even necessary to have a central agency at the state level in charge of the adequate logistics concerning the corpses intended for education and research institutions that do not have this structure.

In brief: steps are needed, conceived during the same process, in two dimensions: the improvement of the existing legislation and its dissemination into the Brazilian society. The first dimension is the perception that the country needs general legislation that updates the current rules dealing with the use of unclaimed corpses for teaching, study or scientific research. However, in addition, it is essential to incorporate other aspects that reality is currently demanding regarding the standardization, such as the importation of corpses and human remains.

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We dedicate the work to Father Leocir (Leo) Pessini (*in memoriam*).

The Anatomy Lesson of Dr. Nicolaes Tulp (Rembrandt, 1632, Mauritshuis/Haia/Netherlands)



REFERENCES

1. Ruiz CR, Pessini L. Lições de anatomia: vida, morte e dignidade. *O Mundo da Saúde* 2006; 30(3) 425-433.
2. Braz PRP. Método didático aplicado ao ensino da anatomia humana. *Anuário da Produção Acadêmica Docente* 2009; (3):303-310.
3. Kim JH. Exposição de corpos humanos: o uso de cadáveres como entretenimento e mercadoria. *Mana* 2002; 18(2) 309-348.
4. Brasil. Resolução RDC nº 33, de 8 de julho de 2011. Dispõe sobre o Controle e Fiscalização Sanitária do Transporte de Restos Mortais Humanos. *Diário Oficial da União*, 12/07/2011.
5. Secretaria de Estado da Saúde. Centro de Vigilância Sanitária. Resolução SS-28 de 25 de fevereiro de 2013. *Diário Oficial do Estado de São Paulo*, 26/3/2013. – DOE de 26/03/13 – Seção 1 – p.33, de 25 fevereiro de 2013. DOE de 26/03/13 – Seção 1 – p.33.
6. Bertencel JA, Pereira MB. Direito ao cadáver. In: *Anais do XVIII Congresso Nacional do Conpedi*. Disponível em: <https://s3.amazonaws.com/conpedi2/anteriores/>

- XVIII+Congresso+Nacional+-+FMU-São+Paulo+(04%2C+05%2C+06+e+07+de+novembro+de+2009).pdf. Acesso em: 3 jan. 2018.
7. Pernambuco (Estado). Conselho Regional de Medicina do Estado de Pernambuco. Parecer nº 20/14. Disponível em: http://www.portalmedico.org.br/pareceres/crmpe/pareceres/2014/20_2014.pdf. Acesso em: 8 jan. 2018.
 8. Haddad AS, Morita MC, Pierantoni CR, Brenelli SL, Passarella T, Campos FE. Formação de profissionais de saúde no Brasil: uma análise no período de 1991 a 2008. *Rev Saúde Pública* 2010; 44(3):383-391.
 9. Brasil. Ministério da Educação e Cultura. Expansão de cursos a distância em saúde é debatida na Câmara. Disponível em: <http://portal.mec.gov.br/ultimas-noticias/210-1448895310/52931-expansao-de-cursos-a-distancia-em-saude-e-debatida-na-camara>. Acesso em: 23 maio de 2019.
 10. Fornaziero CC, Gil CRR. Novas tecnologias aplicadas ao ensino da anatomia humana. *ver. bras. educ. med.* 2003; 2(27) 141-146.
 11. Siqueira Neto EGB, Ferreira JR. O ensino da anatomia humana no curso de medicina da Universidade Federal de Goiás: avaliação e perspectivas. *Arq. Ciênc. Saúde Unipar* 2001; 5(1) 41-50.
 12. São Paulo. Conselho Regional de Medicina do Estado de São Paulo. Parecer nº 157.889/2010. Disponível em: <http://www.cremesp.org.br/?siteAcao=Pareceres&dif=s&ficha=1&id=10120&tipo=PARECER&orgao=Conselho%20Regional%20de%20Medicina%20do%20Estado%20de%20S%20E%3o%20Paulo&numero=15-7889&situacao=&data=12-07-2011>. Acesso em: 8 jan. 2018.
 13. Luiza, M. Da necessidade de normatização da utilização de recém-cadáver em treinamentos. Coletânea de Artigos do Programa de Certificação CBEXS. São Paulo, 2018.
 14. Mitchell EL, Sevdalis N, Arora S, Azarbal AF, Liem TK, Landry GJ, et al. A fresh cadaver laboratory to conceptualize troublesome anatomic relationships in vascular surgery. *Journal of Vascular Surgery* 2012; 1187-1194.
 15. Kang PS, Hogan AF, Acheson AG. Try fresh frozen cadavers. *British Medical Journal* 2009; 338.
 16. Francis C, Chandra E, Justin TK, Haritha V, Mark M, Urata MD, et al. Cadaver-based surgical education curriculum. *The American Association for Hand Surgery* 2012.
 17. Marrey Neto JA. O aproveitamento de cadáveres para estudo de Anatomia. Disponível em: http://www.migalhas.com.br/arquivo_artigo/art20060130.htm. Acesso em: 30 out. 2017.
 18. Costa GBF, Lins CCSA. O cadáver no ensino da anatomia humana: uma visão metodológica e bioética. *Revista Brasileira de Educação Médica* 2012; 36(3):368-373.
 19. Mediavilla D. O que acontece com os corpos doados para estudos? Disponível em: <https://cebid.blogspot.com.br/2016/08/ciencia-o-que-acontece-com-os-corpos.html>. Acesso em: 6 nov. 2017.
 20. Universidade de São Paulo. Doação de corpos. Disponível em: http://www.icb.usp.br/~anat/index.php?option=com_content&view=article&id=16&Itemid=108. Acesso em: 23 maio 2019.
 21. Paraná (Estado). Lei nº 15.471, de 10 de abril de 2007. Autoriza o Poder Executivo a instituir o “Conselho Estadual de distribuição de Cadáveres”, no Estado do Paraná. Disponível em: http://www.crianca.mppr.mp.br/arquivos/File/legis/mppr/resolucao_pgj_pr_2455_2016__cadaveres_para_educacao.pdf. Acesso em: 28 de maio 2019.
 22. Paraná (Estado). Procuradoria-Geral de Justiça. Resolução nº 2.455, de 16 de maio de 2016. Disponível em: <https://www.legisweb.com.br/legislacao/?id=323991>. Acesso em 29 maio 2019.
 23. Melo EM, Pinheiro JT. Procedimentos legais e protocolos para utilização de cadáveres no ensino de Anatomia em Pernambuco. *Revista Brasileira de Educação Médica* 2010; 34(2):315-323.
 24. Diotto N, Fripp Dt, Junges Júnior JA, Schmitt FK, Neubauer VS. A utilização de corpos na evolução médica e científica: o uso de cadáveres nas universidades e o princípio constitucional da dignidade da pessoa humana. 2015. Disponível em: <https://home.unicruz.edu.br/mercosul/>. Acesso em: 29 nov. 2017.
 25. Brasil. Projeto de Lei nº 4.272. Altera a Lei nº 8.501, de 30 de novembro de 1992. *Diário da Câmara dos Deputados*, 13 fev. 2016.
 26. Brasil. Lei nº 8.501, de 30 de novembro de 1992. Dispõe sobre a utilização de cadáver não reclamado, para fins de estudos ou pesquisas científica e dá outras providências. *Diário Oficial da União – Seção 1 – 1/12/1992*, Página 16519 (Publicação Original)
 27. Brasil. Portaria nº 1.405 de 29 de junho de 2006. Institui a Rede Nacional de Serviços de Verificação de Óbito e Esclarecimento da Causa Mortis (SVO). Disponível em: http://bvsm.sau.gov.br/bvs/sau/legis/gm/2006/prt1405_29_06_2006.html. Acesso em: 3 jan. 2018.
 28. São Paulo (Estado). Legislação SVOC-USP. Disponível em: <http://www.svoc.usp.br/Leis.htm>. Acesso em: 29 jan. 2017.

29. Souza PHR. Quem emite o atestado de óbito. Disponível em: <http://www.imlsvsvo.info/municipiossvsvo.pdf>. Acesso em: 22 nov. 2017.
30. São Paulo (Estado). Instituto Médico Legal (IML). Disponível em: <http://www.ssp.sp.gov.br/fale/institucional/answers.aspx?t=3>. Acesso em: 22 nov. 2017.
31. Carmo M. Laboratório argentino importa cadáveres dos Estados Unidos. Disponível em: http://www.bbc.com/portuguese/noticias/2011/03/110330_cadaveresargentina_mc.shtml. Acesso em: 21 nov. 2017.
32. “Um pé por US\$ 200”: o estranho mercado de cadáveres nos EUA. G1, 10 jun. 2015. Disponível em: <http://g1.globo.com/mundo/noticia/2015/06/um-pe-por-us-200-o-estranho-mercado-de-cadaveres-nos-eua.html>. Acesso em: 30 nov. 2017
33. Turkish university importing dead bodies from US for medical students amid shortage. Daily News, 25 Oct. 2016. Disponível em: <http://www.hurriyetdailynews.com/turkish-university-importing-dead-bodies-from-us-for-medical-students-amid-shortage.aspx?pageID=238&nID=105332&NewsCatID=341>. Acesso em: 30 out. 2017.
34. Universities need 100 cadavers annually. Arab News, 18 Aug. 2013. Disponível em: <http://www.arabnews.com/news/461634>. Acesso em: 21 nov. 2017.
35. Changwei, W. China sells cadavers to Epgypt. Disponível em: https://www.teepochtimes.com/china-sells-cadavers-to-egypt_1733001.html. Acesso em: 30 out. 2017.
36. Turkey: Hacettepe University turns to China over shortage of cadavers. Daily Sabah with Anadolu Agency, 28 Apr. 2015. Disponível em: <https://www.dailysabah.com/ankara/2015/04/28/turkey-hacettepe-university-turns-to-china-over-shortage-of-cadavers>. Acesso em: 21 nov. 2017.
37. São Paulo. Provimento nº 41/2012. Provimento CG nº 41/2012 – Modifica o Capítulo XVII, do Tomo II, das Normas de Serviço da Corregedoria Geral da Justiça. Disponível em: <http://www.arpensp.org.br/?pG=X19leGliZV9ub3RpY2lhcw==&in=MTczOTc=>. Acesso em: 3 jan. 2018.
38. São Paulo (Estado). Corregedoria Geral de Justiça. Tribunal de Justiça do Estado de São Paulo Provimento nº 16, de 26 de setembro de 1997. Regulamenta a lavratura de assentos de óbitos quando destinados cadáveres a estudo ou pesquisas científicas, como previsto pela Lei nº 8.501/92, e adiciona ao item 100 do Capítulo XVII das Normas de Serviço da Corregedoria Geral de Justiça. Diário Oficial do Estado, 26 set. 1997, p. 41.
39. Pernambuco (Estado). Corregedoria Geral de Justiça. Tribunal de Justiça do Estado de Pernambuco. Provimento nº 28/2008, de 11 de setembro de 2008. Dispõe sobre o registro de óbito dos cadáveres destinados às Escolas de Medicina, para fins de ensino e pesquisas de caráter científico. Diário Oficial do Estado de Pernambuco, 20 set. 2008, p. 5-6.
40. Brasil. Lei nº 10.046, de 10 de janeiro de 2002. Institui o Código Civil. Diário Oficial da União. Página 1 da Seção 1 do Diário Oficial da União (DOU) de 11 de Janeiro de 2002.
41. Brasil. Projeto de Lei do Senado nº 484, de 19 de novembro de 2013. Dispõe sobre a importação de material biológico de origem humana para fins de ensino e de pesquisa. Diário do Senado Federal, 20 nov. 2013, nº 192.
42. Brasil. Projeto de Lei nº 5.901 de 2016. Altera a Lei nº 8.501, de 30 de novembro de 1992. Dispõe sobre a utilização de cadáver não reclamado para fins de estudos ou pesquisas científicas e dá outras providências; a Lei nº 6.015, de 31 de dezembro de 1973, que dispõe sobre os registros públicos, e dá outras providências; e a Lei nº 10.406, de 10 de janeiro de 2002, que institui o Código Civil, para dispor sobre a doação de cadáver para fins de ensino e pesquisa, e dá outras providências. Diário da Câmara dos Deputados, 12 ago. 2016, ano LXXI, nº 138.
43. Brasil. Resolução RDC nº 81, de 5 de novembro de 2008. Dispõe sobre o Regulamento Técnico de Bens e Produtos Importados para fins de Vigilância Sanitária. Diário Oficial da União, DOU de 11/11/2008 (nº 219, Seção 1, pág. 80)

AUTHORS' CONTRIBUTIONS

All authors participated in all stages of the article.

CONFLICTS OF INTEREST

The authors declare no conflict of interests

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