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## PESQUISA

# Ethical and legal analysis of scientific research on corpses in Brazil

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## Abstract

Currently there is an increasing interest in publications on the use of corpses for research in Brazil and worldwide. Scientific evidence reveal that these studies have little ethical and regulatory control. In Brazil, the regulation of this subject is scarce and scattered among laws and sublegal normative acts, hindering the knowledge of ethical and legal practices adopted by researchers. This article analyzes the laws and norms for scientific research on corpses in Brazil through a *corpus* that underlies this type of research. From the 1940-2012 period, we found seven documents of the Brazilian legislation that gather information for ethical and clear research. Finally, we present guidelines and a protocol to be followed by researchers for the development of ethical and legal studies with corpses in Brazil.

**Keywords:** Cadaver. Research. Records. Ethics, research. Legislation. Jurisprudence.

## Resumo

### Análise ética e jurídica da pesquisa científica sobre cadáveres no Brasil

Atualmente há crescente interesse em publicações sobre o uso de cadáveres para pesquisa no Brasil e no mundo. Evidências científicas revelam que esses estudos têm pouco controle ético e regulatório. No Brasil, a normalização do assunto é escassa e dispersa entre leis e atos jurídicos sublegais, o que dificulta o conhecimento das práticas éticas dos pesquisadores. Este artigo analisa leis e normas de pesquisa científica sobre cadáveres no Brasil utilizando *corpus* documental subjacente a esse tipo de estudo. Entre 1940 e 2012, foram encontrados sete documentos na legislação brasileira que reuniam informações para pesquisas éticas e claras. Por fim, são apresentados diretrizes e protocolos que devem ser seguidos por pesquisadores em estudos éticos e legais com corpos humanos no Brasil.

**Palavras-chave:** Cadáver. Pesquisa. Registros. Ética em pesquisa. Legislação. Jurisprudência.

## Resumen

### Análisis ético y legal de la investigación científica con cadáveres en Brasil

En Brasil y en todo el mundo se observa actualmente un interés creciente por las publicaciones sobre el uso de cadáveres para la investigación. Sin embargo, evidencias científicas revelan que estos estudios tienen poco control ético y regulatorio. En Brasil, la normalización del tema es escasa y dispersa entre leyes y actos jurídicos sublegales, lo que dificulta el conocimiento de las prácticas éticas entre los investigadores. El presente artículo analiza leyes y normas para la investigación científica sobre cadáveres en Brasil utilizando el *corpus* documental que sustenta este tipo de estudios. Se encontraron siete documentos de la legislación, publicados entre 1940 y 2012, que recopilan información para una investigación ética y clara. Con base en el análisis de estos textos, se presentan pautas y protocolos que deben seguir los investigadores en estudios éticos y legales con cuerpos humanos en Brasil.

**Palabras clave:** Cadáver. Investigación. Registros. Ética en investigación. Legislación. Jurisprudencia.

Declararam não haver conflito de interesse.

Since the emergence of ancient Greece medicine in the 3rd century BC, human corpses have been used as a tool for teaching anatomy<sup>1</sup>. Rock paintings describing anatomy were found in Australia, and anatomical studies were discovered in Persian paintings<sup>2</sup>. However, during the Middle Ages, the dissection of human corpses was culturally interpreted as profanation and consequently forbidden in Europe<sup>3</sup>. Although often attributed to the Canon Law, the sacralization of dead human bodies started in the Roman society, in which the deceased relative was regarded as a protection deity of the family asset<sup>4</sup>.

With the Scientific Renaissance in the early 14th century, the use of human corpses for dissection practices became a core part of anatomy teaching in some European medical schools<sup>1</sup>. Dissection was historically related to the application of capital sentence and was performed on the corpses of executed criminals<sup>5</sup>.

In the middle of the 16th century, formal sessions of dissection assumed a public character at the university and were attended by large audiences throughout Europe. Thus, the demand for corpses for research purposes increased considerably<sup>1</sup>. Faced with an insufficient corpse supply, their illegal acquisition through thefts in wakes and cemeteries became a common practice, even among surgeons and anatomists<sup>6</sup>.

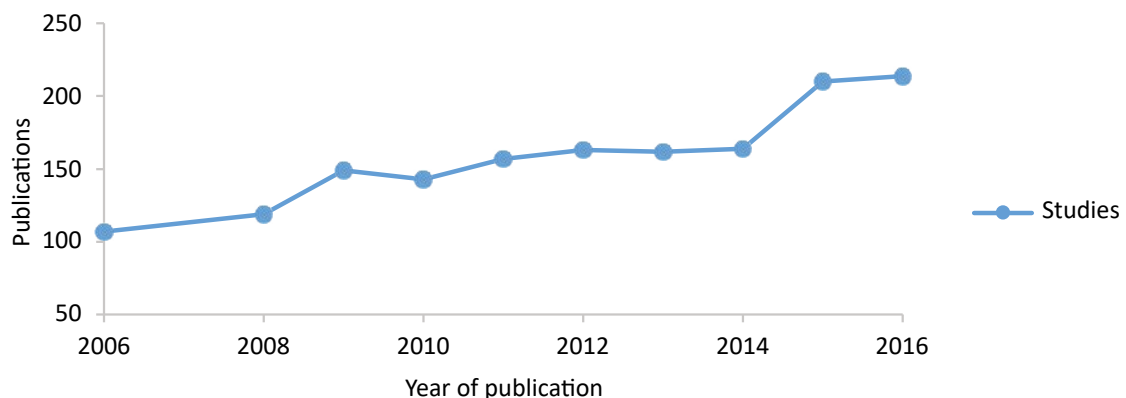
In response to the strong public outcry against these illicit practices, during the 18th and 19th centuries many European countries legalized the acquisition of corpses unclaimed by relatives, especially of black and poor people, for anatomical studies in medical schools<sup>6</sup>. Among these laws, the Anatomy Act 1832, approved by the British

Government, prohibited the use of corpses of convicted criminals and allowed cadaver voluntary donation. This law set the beginning of a paradigm shift in the corpse acquisition for anatomical dissection, according to human rights and dignity. Since then, the use of human bodies for studies and research in medical schools in most countries was feasible by voluntary donation or unclaimed corpses<sup>1</sup>.

Although anatomical studies on cadavers have been carried out since Antiquity, a recent search for publications conducted on December 2017 in the Web of Science database, using the Medical Subject Headings “cadaver or corpse and research”, showed a growing interest in this topic from 2006 to 2016 (Figure 1). While in the year 2006 107 publications were indexed in the Web of Science, for 2016 we found 214, a growth of 100%.

Despite the increasing number of worldwide publications on cadaver research and the scientific progress that they promote, Bach<sup>7</sup> warns of the poor ethical or regulatory supervising of such studies, whose lack of control allows ethically questionable practices. In this sense, in an extensive review of scientific articles about the subject published between January 2011 and December 2015, Gürses and collaborators<sup>8</sup> found that 45.6% of them did not mention the source of samples, whereas 26.2% stated the consent for research, and only 32.4% reported some form of ethical approval for the study. Considering the need to maintain a clear and reliable relationship between anatomists and society<sup>8</sup>, it is difficult to know if these studies were conducted in an ethical and legal context due to the lack of appropriate information.

**Figure 1.** Number of citations of the terms “cadaver or corpse and research” in scientific articles from 2006 to 2016



In addition, searching the Web of Science database in 2017, we found that Portuguese is the fifth most used language in the number of citations, and that Brazil occupies the eighth place in the quantity of publications on the subject. However, despite the amount of studies, the research regulations for human corpses in Brazil are still scarce and scattered among sub-legal laws and acts, hindering the implementation of ethical and legal practices. In this context, we conducted a documentary analysis of the Brazilian legislation on cadaver research, presenting guiding principles and a protocol for ethical and clear investigations on this subject.

## Method

The wealth of information resulting from the analysis warrants its use in several areas of knowledge, since it increases the understanding of the research objects and identifies factual data from the questions and hypotheses of interest<sup>9</sup>. To answer them, the researcher should: 1) use appropriate techniques for handling and analyzing documents; 2) follow steps and procedures and categorize information; and 3) summarize the data to be analyzed<sup>10</sup>. The *corpus* of this study, collected in December 2017, consists of laws, resolutions, and responses from medical professors in relation to the corpse's rights and to guidelines and prohibitions for their use in scientific research.

Resolutions 1/1988<sup>11</sup> and 196/1996<sup>12</sup> of the Brazilian National Health Council (CNS) were excluded from the analysis, but the Penal Code of 1940<sup>13</sup>, the Constitution of the Federative Republic of Brazil of 1988<sup>14</sup>, Law 8,501/1992<sup>15</sup>, the 2002 Civil Code<sup>16</sup>, the CNS Resolution 466/2012<sup>17</sup>, the *Cadernos de Ética em Pesquisa* – edited by the National Commission for Research Ethics (Conep)<sup>18</sup> –, and the provisions of the Judicial Administrative Department of São Paulo State (CG/SP)<sup>19</sup>. We found no guidelines of the National Council of Justice (CNJ).

At the first stage of analysis, these documents were evaluated for relevance, credibility and legal and bioethical representation, considering the following aspects: 1) context; 2) authors; 3) authenticity and reliability of the article; 4) article content; and 5) key concepts and internal logic of the articles<sup>20</sup>. These aspects were interpreted and summarized to guide researchers in scientific investigations using corpses in a legal, clear and ethical way, according to the legislation and technical guidelines of the medical autopsy and research ethics.

In this article, the *corpus* was limited to documents of national scope due to their relevance and pertinence, and did not consider state documents from forensic medicine institutes or death notification services. Moreover, due to the absence of specific legislation, there are still some concerns about the ethical and legal legitimacy of the use of corpses of neonates, children and pregnant women in Brazil. This legal gap was also highlighted in the CNS Resolution 1/1988<sup>11</sup>, Chapter V, which referred the need for appropriate regulation.

## Ethical and legal analysis for searches on corpses

This research analyzed seven documents that were in force from 1940 to 2012 and were formulated by political authorities, health professionals, scientists and representatives of the democratic Brazilian society. Its credibility and representativeness rely on the Brazilian Constitution of 1988<sup>14</sup>, laws approved by Brazil's National Congress and other documents that are supported by universal ethical and juridical principles built in democratic spaces with transparency and citizens' participation. Our findings are entirely supported by documentary research sources and organized hierarchically from general to most specific norms.

### *Constitution of the Federative Republic of Brazil of 1988*

Approved on October 5, 1988, the Brazilian Constitution<sup>14</sup> is a milestone in the country's re-democratization process after 21 years of military regime. In November 1986, general elections were held, and some sectors defended the creation of an exclusive constituent assembly composed of elected representatives with the sole aim of establishing the country's new constitution. However, the proposal of the constituent congress was maintained, that is, the federal deputies and senators elected in November 1986 would also have the functions of congressmen and constituents.

The constituent assembly was finally settled in the National Congress on February 1st, 1987, with deputies and senators elected by the population. This assembly made the fundamental and sovereign Brazilian laws that serve as a foundation for all other types of regulations at the apex of the legal system<sup>21</sup>. The promulgation of the Brazilian Constitution was the result of intense discussions, conflicts, impasses, and negotiations enabled by the debate of *major*

*national problems and the legitimate interests of each social class*<sup>22</sup> to the whole society, as stated by Tancredo Neves. This was possible due to the movement triggered by organized sectors of the civil society that launched a national movement for the constituent assembly and, after its spreading throughout the country, due to the plenary for popular participation<sup>22</sup>.

Influenced by a scenario of re-democratization, freedom in a broad sense and popular participation, articles that guarantee the right to freedom of scientific expression were also included in the Constitution<sup>14</sup>, as in its article 5, item IX. They establish the State's duty to promote scientific and technological development (art. 218) through the Brazilian Unified Health System (art. 200, item V) and various levels of the educational system (art. 214, item V)<sup>14</sup>.

Regarding the possibility of donating human organs and tissues, including corpses, for research purposes, paragraph 4 of article 199 of the Constitution<sup>14</sup> has delegated such regulation to the Law, highlighting the prohibition of all types of trade. In this sense, Law 8,501/1992 determined *the use of unclaimed corpses for scientific studies or research*<sup>15</sup> and Law 9,434/1997 *the removal of organs, tissues and parts of the human body for transplantation and treatment*<sup>23</sup>. The systematic reading of these regulations shows that the development of scientific research in Brazil is constitutionally supported by the right to freedom of scientific expression, as these activities, including research, are an intellectual exercise<sup>24</sup> protected by the Constitution and based on the freedom of teaching and research<sup>25</sup>.

### Penal Code of 1940

Until the proclamation of the Republic on November 15, 1889, cemeteries represented almost sacred sites because of the religious character of the Brazilian State at the time. However, Decree 789<sup>26</sup>, proclaimed on September 27, 1890, established the secularization of graveyards by transferring their administration to the cities without the intervention of any religious authority.

Although the Penal Code of 1830<sup>27</sup> dealt with offenses against the Catholics (art. 276 to 278), the specific penal authority for dead people appeared only with the Penal Code of 1890<sup>28</sup>. The code provided penalties for corpse burial or exhumation in disagreement with sanitary regulations (art. 364), corpse desecration and burial violation (art. 365), and damage to mausoleums or other funerary artifacts (art. 366)<sup>28</sup>.

The Penal Code of 1940<sup>13</sup>, still in force, condemns impediments or disturbances in funeral ceremonies (art. 209), burial violation (art. 210), corpse destruction, subtraction or concealment (art. 211), and corpse vilification (art. 212) as crimes. Corpse burial or exhumation disregarding legal provisions remained a criminal contravention (art. 67 of the Decree-Law 3,688/1941<sup>29</sup>).

Hugo Nigro Mazzilli<sup>30</sup> clarifies that the legal object is protected by the feeling of respect for dead persons, an ethical and social value that the law regards beyond religion. Therefore, to be a crime, it is not necessary to consider the dead person's or their relative's religion. On the other hand, Nelson Hungria<sup>31</sup> considers that the crime against the dead person has religious nature, referring to the two chapters of the Criminal Code under the title "On the crimes against religious feeling and against respect for the dead". In both cases, all relevant ethical and social values are protected: the religious feeling and the veneration for the dead.

However, a third line of thought refutes the possibility of protecting ethical and social values by criminal laws. It considers that the dignity of the person extended after death is the true legal asset protected. According to Décio Franco David, Franco and Silva pointed out that *the corpse is the existence projection of the human being, and the dignity of the dead person is the primary and permanent object of authority against acts of disrespect to human remains and graves*<sup>32</sup>.

From this point of view, David<sup>33</sup> states that death does not end all expressions of dignity contained in a person's life. Thus, the use of corpses in scientific research should imply an attitude of deference and respect for the dead person, either because of the protection of ethical and social feelings or his dignity, under the penalty of crime configuration, whose court sentences vary from one month to three years of prison to a fine payment.

### Civil Code of 2002

Established by Law 10,406/2002, the Brazilian Civil Code refers to the validity of the *gratuitous disposition of one's own whole corpse or its parts for scientific or altruistic purposes* (art. 14, *caput*)<sup>16</sup>; therefore, this legal instrument is applicable to body donation for scientific research purposes. The sole paragraph of this article also ensures the free revocation at any time of this disposition. The "gratuitous character" referred to in the *caput*

reveals the altruistic or scientific purpose of the act, forbidding any lucrative or commercial interest.

By representing the last will of the person, this intent of donation of one's own body for scientific purposes after death is referred in art. 1,857, §2, of the Civil Code as *testamentary dispositions of non-patrimonial character*, whose validity persists even if the testator is only limited to them<sup>16</sup>. But this disposition of the own body must be decided by a civilly capable person, in terms of the *caput* of art. 1,857, and substantiated by a public or private instrument – in the latter case, accompanied by the signature of two witnesses, as similarly provided in Statement 37 of the CNJ<sup>34</sup> and in art. 29, paragraph 3, of Decree 9,175/2017<sup>35</sup>. In this sense, the Brazilian Society of Anatomy<sup>36</sup> published on its website a model for a document called “Statement of intent of body donation for study and research purposes”.

Although the will signed in public or private instruments is not enough for body donation – the family consent is also needed<sup>36</sup> –, the doctrine of Brazilian Civil Law consolidated the understanding in 2006<sup>37</sup>. The express statement of the donor when alive regarding the donation of the whole body or its parts prevails over the family consent, being restricted to the hypothesis of silence of the potential donor.

However, Law 9,434/1997<sup>23</sup> requires the consent of the family of the deceased. Pimentel, Sarsur and Dadalto<sup>38</sup> suggest the need to update the organ transplantation law, including in its text the prevalence of the donor's will, even in the face of refusal by their relatives. An amendment is currently being discussed in the National Congress for changes in this law (Bill 3,643/2019<sup>39</sup>).

Finally, the sole paragraph of art. 12 of the Civil Code recognized the personality rights of the dead person<sup>40</sup>, which consist of expressions of the tutelage<sup>41</sup>, whose normative recognition is made by civil legislators<sup>42</sup>. Among the personality rights are, for example, the rights to the physical integrity of either the living or dead body and to moral integrity (honor, privacy, intimacy etc.)<sup>43</sup>.

Thus, the death of the body is not the end of the exercise of personality rights<sup>44</sup>, as provided in the sole paragraph of art. 12 of the Civil Code<sup>16</sup>, which foresees the legitimacy of the spouse or relative to judicially demand the end of the injury or threat of injury to the personality rights of the deceased, as well as to claim damages.

In this sense, from the social point of view, dead persons continue to be relevant as they survive

in the memory of their relatives and of those who continue to be influenced by their legacy<sup>30</sup>. From an ethical point of view, the deceased can be regarded as subjects of rights on the ethical basis that legitimates personality rights<sup>45</sup>. Thus, the denial of these rights disrespects the dignity of the person themselves<sup>44</sup>.

In light of the above, the use of corpses in studies is based on the act of free disposition of the body for scientific purposes, substantiated by the statement of intent made by the person when alive or by the donation by relatives. In addition, considering the continuity of personality rights after death, the manipulation of the body must contemplate certain considerations, such as the physical and moral integrity of the cadaver.

### Law 8,501 of 1992

Resulting from the law proposal 398 of 1989, by Senator Leite Chaves, the Federal Law 8,501<sup>15</sup> of November 30, 1992 provides for the use of unclaimed corpses for scientific studies or research. According to its article 2, a cadaver not claimed within 30 days, that is, not identified (art. 3, item I) or not sought by relatives or legal guardians (art. 3, item II) with the public authorities, might be assigned to medical schools for research purposes<sup>15</sup>. When there is evidence that the death resulted from criminal activity, paragraph 3 of article 3 prohibits the destination for teaching and studies.

The institutions responsible for guarding the corpse shall maintain, in accordance with article 3, paragraph 4, information that allows the recognition of the dead person, such as photos, fingerprint sheets, necropsy results for cases in which the death resulted from an unnatural cause, allowing family members access to the data at any time (art. 5)<sup>15</sup>. Finally, the death should be published in wide-circulation newspapers for at least ten days (art. 3, paragraph 1) before releasing the corpse to medical schools. Particularly, the provisions of the Judicial Administrative Department regulate the remaining concerns regarding the use of corpses for this purpose at the state level.

### Resolution 466/2012 of the National Health Council

After the implementation of the new constitutional order in 1988, the CNS issued Resolution 1/1988<sup>11</sup>, which approved health research standards and presented the main international ethical documents among other legal bases. Its Chapter V stated that abortions and stillbirth products should comply with specific legislation that has not



been edited to date. Likewise, as the research on corpses and human parts foreseen in Chapter VII, this decision referred to the observance of specific regulations that were subsequently elaborated.

As this document<sup>11</sup> had little practical impact, in 1995 the CNS created a multidisciplinary executive working group (GET), bringing together physicians, nurses, theologians, engineers, members of the pharmaceutical industry, dentists and representatives of the health system users to review such research norms<sup>46</sup>. Coordinated by Professor William Saad Hossne<sup>47</sup>, the GET drafted the resolution minutes and analyzed the contributions received for six months of lectures, seminars, and meetings. Finally, in October 1996, the GET approved Resolution 196<sup>12</sup>, revoking the CNS Resolution 1/1988<sup>11</sup> and creating a national system composed of local Research Ethics Committees (CEP) and the Conep<sup>47</sup>, with the participation of a multidisciplinary team and representatives of the health system users<sup>12,48</sup>. According to CNS data<sup>49</sup>, there are currently 832 CEPs registered in the Council's website, a national and unified database of records of research protocols involving human beings submitted to the CEP/Conep system.

Regarding the use of corpses for research purposes, Resolution 196/1996<sup>12</sup> established the requirements for conducting studies on people diagnosed with brain death, strictly meeting the following conditions: a document attesting brain death (death certificate); explicit consent of the family and/or legal guardians, or previous statement of the will; full respect for the dignity without mutilation or violation of the body; absence of additional economic/financial burden to the family; absence of prejudice toward other patients awaiting hospitalization or treatment; and possibility of acquiring relevant and new scientific knowledge that cannot be obtained otherwise.

Among these requirements is the statement of intent from the donor or the authorization for body donation by family members and/or legal representatives. Thereafter, the consent of the person himself or his relative/legal representative is enough to authorize the donation, according to the Civil Code<sup>16</sup>. Furthermore, *the full respect for the person's dignity without mutilation or violation of the body*<sup>12</sup> that this resolution proclaims in its item IV.3, clause d, is in accordance with the personality rights of the dead person established by the Brazilian Civil Code<sup>16</sup>, as well as with the legal asset of dignity protected by the Brazilian Penal Code<sup>13</sup>.

In 2012, CNS Resolution 196/1996<sup>12</sup> was replaced by CNS Resolution 466/2012<sup>17</sup>, maintaining

similar requirements for conducting research in people diagnosed with brain death. In addition, scientific research on corpses should, therefore, be in alignment with the other ethical standards of CNS Resolution 466/2012<sup>17</sup>, which do not differentiate the treatment between animate and inanimate bodies.

### Provisions of the Judicial Administrative Department

In order to rationalize and discipline the extrajudicial activity of notary offices, the Judicial Administrative Department of each state edit provisions that regulate the exercise of notary and registry services. Among other norms, such provisions of the courts of justice govern the use of corpses for studies and research at the state level, normalizing the practical features not contemplated by Law 8,501/1992<sup>15</sup>. Therefore, researchers should comply with the provision of the Judicial Administrative Department of the state court of justice to which the corpse will be donated in order to follow the procedures regarding death registrations, since there are no national guidelines from the CNJ.

São Paulo has the largest number of medical schools in Brazil and the largest university hospital<sup>50</sup>, thus the provisions of the courts of justice of São Paulo are relevant for this study. In that state, for example, the death register is required for using corpses in studies (chapter XVII, item 96.1), and the medical schools must request this document to the civil registry of natural persons (chapter XVII, item 96.2)<sup>19</sup>. After that, the notary offices shall issue edicts with identification details of the corpse for the publication in wide-circulation newspapers, during ten alternate days for a 30-day period, in order to allow relatives or representatives to claim the body (chapter XVII, item 96.3)<sup>19</sup>.

Once this issuance and respective publications are proven, the documents will be referred to the judge of the Judicial Administrative Department, who will consider any claims received and decide on the authorization for the death certificate, stating the corpse specific destination (chapter XVII, item 96.4)<sup>19</sup>. The statement of intent of the person or the authorization of relatives for body donation exempts the expedition and publication of edicts (chapter XVII, item 96.5)<sup>19</sup>. After the death register, the burial or cremation of the corpse previously used in teaching and research activities shall be reported to the civil notary office for the respective registration (chapter XVII, item 96.6)<sup>19</sup>.

**Expert's response to the Conep query**

The CNS Resolution 196/1996<sup>12</sup> (subsequently replaced by 466/2012<sup>17</sup>) foresaw the possibility that the CEP request consultations to experts in the area of which they want to obtain technical information (item VII.14, clause b). Based on the difficulties of implementing CEPs in different regions of the country and the need to disseminate the successful experiences, Conep edited the journal *Cadernos de Ética em Pesquisa*<sup>18</sup> from 1998 to 2005, in which articles and the Conep responses to the queries of researchers and CEP members were published.

In 2003, the journal published a response to a question on the criteria characterizing mutilation of human corpses as the result of research, in order to avoid the occurrence of the crimes previously described<sup>51</sup>. Based on the ethical and legal enforcement on the subject established by the Brazilian Penal Code, professor Hilário Veiga de Carvalho, cited by Daniel Romero Muñoz, presented a more detailed orientation on how to carry out research using cadavers: *We must do our best to restore the body to its habitual form, disguising the lack of the [anatomical] piece*<sup>52</sup> to avoid the crime of corpse vilification.

Thus, there is no *a priori* illegality or ethical inadequacy that may lead to mutilation, considering the prior authorization of relatives or, in its absence, of the director of the institution or service in which the research will be carried out. However, one should analyze the type and degree of mutilation to be caused in view of the relevance of the expected results in the study, considering risks and benefits<sup>51</sup>.

This response was corroborated by Muñoz<sup>51</sup>, who is a professor of legal medicine and bioethics at the Medical School of University of São Paulo, based on his professional experience in medical-legal autopsy studies and on Resolution 196/1996<sup>12</sup>, thus conferring authenticity and reliability to this *corpus*.

**Ethical-legal guidelines for scientific research on corpses**

Based on the cross-sectional analysis of the documents that regulate corpse donation, the information was compiled in guidelines for the ethical, legal and clear performance of researchers (Table 1).

**Table 1.** Ethical-legal guidelines for researchers for the use of corpses in scientific investigations

<b>1.1) If the body is unclaimed</b>	
Check if there is any documentation or identification that facilitates the localization of relatives or legal representatives (Law 8,501/1992 <sup>15</sup> )	
Verify that the death was due to natural causes, since the body cannot be used for research if resulted from a criminal action (art. 3, §3, Law 8,501/1992 <sup>15</sup> ) or it will have to be subjected to a necropsy if the death was due to unnatural causes (art. 3, §2, Law 8,501/1992 <sup>15</sup> )	
Enable, with the medical school, the publication of edicts with data that might allow the identification of the body by relatives or legal representatives in local wide-circulation newspapers during 10 alternate days and for a 30-day period (art. 2, Law 8,501/1992 <sup>15</sup> and Chapter XVII, item 96.3, Provision CG/SP 58/1989 <sup>19</sup> )	
<b>1.2) If the body was identified</b>	
Have the declaration of will of the dead person substantiated as "Statement of intent of body donation for study and research purposes" or equivalent (art. 1,857, Civil Code <sup>16</sup> )	
Obtain, in the absence of statement of intent, the consent of the relative or legal representative to validate the corpse donation for research (item IV.6, clause c.2, Resolution CNS 466/2012 <sup>17</sup> )	
Observe the gratuitous and solidary character of the act of disposition of one's own body or the donation by the relatives, being forbidden all types of commercialization (art. 199, §4º, Brazilian Constitution <sup>14</sup> and art. 14, <i>caput</i> , Civil Code <sup>16</sup> )	
Do not disturb or prevent the funeral to request or coerce relatives to donate the body for research (art. 209, Penal Code <sup>13</sup> )	
Do not violate the burial for the subtraction of the corpse for research (art. 210 and 211, Penal Code <sup>13</sup> )	
<b>1.3) On the authorization of use by the judge of the state court of justice</b>	
Check the provision of the Judicial Administrative Department of the state to which the corpse will be donated to follow the procedures for the death register <sup>19</sup>	
Request, together with the medical school, the death certificate of the corpse to the civil notary office for the use in studies and research (item 96.2, Chapter XVII, Provision CG/SP 58/1989 <sup>19</sup> )	
Present the originals of the edicts published in wide-circulation newspapers (item 96.3, Chapter XVII, Provision CG/SP 58/1989 <sup>19</sup> ) to the civil notary office	
Await the authorization of the judge of the court of justice for the use of the corpse in research (item 96.4, Chapter XVII, Provision CG/SP 58/1989 <sup>19</sup> )	

continues...



Table 1. Continuation

<b>1.4) On the submission of the research using corpses to the ethics committee</b>
Analyze the type and degree of mutilation to be caused in the corpse, considering the risks and benefits and the relevance of the expected results for the research project (item III.1, clause b, Resolution CNS 466/2012 <sup>17</sup> and response from the Conep expert <sup>18</sup> )
Demonstrate that the risks related to research – that is, the possibility of damage to the <i>physical, psychic, moral, intellectual, social, cultural or spiritual dimension</i> of the person – will be minimized (item II.22, Resolution CNS 466/2012 <sup>17</sup> )
Submit the research project to the CEP via Plataforma Brasil <sup>53</sup> (item VI, Resolution CNS 466/2012 <sup>17</sup> ) after the authorization by the judge of the state court of justice <sup>19</sup>
Observe the general ethical guidelines for conducting research with human beings in Brazil (item I, Resolution CNS 466/2012 <sup>17</sup> )
<b>1.5) For the research development</b>
Carry out the research with the corpse only after approval of the project by CEP (item X.3, subitem 5, clause a, Resolution CNS 466/2012 <sup>17</sup> )
Develop the research according to what was outlined in the project approved by CEP (item XI.2, clause c, Resolution CNS 466/2012 <sup>17</sup> )
Do not destroy parts of the corpse in disagreement with what was approved by CEP (art. 211, Penal Code <sup>13</sup> )
Do not remove or hide the corpse or its parts for any reason (article 211, Penal Code <sup>13</sup> )
Treat the dead body with attitudes, gestures and words of deference and respect during manipulation (art. 12, Civil Code <sup>16</sup> ), avoiding the occurrence of indemnification of the relatives for damages and losses (art. 12, Civil Code <sup>16</sup> ) and the crime of corpse vilification (art. 212, Penal Code <sup>13</sup> )
Maintain the body, as far as possible, in its usual form, reporting in detail all the procedures performed on the corpse, the anatomical parts extracted and the research findings <sup>51</sup>
<b>1.6) After the research is concluded</b>
Enable, together with the medical school, the burial or cremation of the corpse remains that are no longer used for teaching and research purposes (Chapter XVII, item 96.6, Provision CG/SP 58/1989 <sup>19</sup> )
Communicate to the civil notary office that the body will be buried or cremated by the medical school for proper registration in the death certificate (Chapter XVII, item 96.6, Provision CG/SP 58/1989 <sup>19</sup> )
Do not disturb or prevent the burial or cremation of corpse remains performed by the medical school (art. 209, Penal Code <sup>13</sup> )

In addition, from the analysis of the documents that regulate the research using corpses, we elaborated a protocol to be followed by the researcher for the development of an ethical and legal research (Appendix).

### Final considerations

Although corpses have been used for scientific research for centuries, practical concerns about its ethical and legal aspects can be raised. This study presented a protocol that researchers must

follow to conduct studies with corpses in Brazil, in accordance with ethical and legal precepts. These guidelines were based on the analysis of the Brazilian *corpus* on this subject available from 1940 to 2012. Consequently, the researchers will have the assurance that they conducted scientific work with corpses in a legal, clear and ethical way.

Finally, scientific journals should not publish studies that do not follow these precepts, since researchers who do not follow the described protocol may suffer civil, criminal, and administrative penalties for conducting illegal and unethical research.

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## Appendix

## Ethical-legal protocol for the use of corpses in scientific research in Brazil

