

SCIENTIFIC ARTICLE

## The anesthesiologist facing terminality: a survey-based observational study



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### KEYWORDS

Dysthanasia;  
Anesthesiology;  
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### Abstract

**Background and objectives:** Advances in medicine, including anesthesiology and resuscitation, have made natural death increasingly rare. As a consequence, dysthanasia has become usual in a scenario for which there is not rationale. The present study aimed to assess the level of knowledge of Brazilian anesthesiologists on the principles of dysthanasia and orthothanasia. Thence, we studied the management preferences of these professionals, *vis-à-vis* those practices, as well as how medical school contributed to addressing death-related issues.

**Method:** Quantitative approach, prospective and descriptive cohort that included 150 anesthesiologists, members of the Brazilian Society of Anesthesiology, and who were invited to participate by email. An online questionnaire containing 38 questions was prepared by the authors. The study was approved by the Instructional Research Ethics Committee.

**Results:** Anesthesiologists, although claiming to know dysthanasia and orthothanasia, mostly acquired knowledge outside medical school. If faced with their own end of care, or of a patient or a loved one, they prefer orthothanasia, to die at home, prioritizing dignity. However, the specialists claimed to have already practiced dysthanasia, even when orthothanasia was the choice management, which caused them negative feelings. Almost all respondents stated that they did not have practical training in undergraduate school on how to face end-of-life issues, although they felt capable of identifying it. Most were not aware of the Brazilian Federal Council of Medicine Resolution 1.805/06 that makes practicing orthothanasia feasible. Anesthesiologists' religion or the political-administrative region of residence had no effect on their preferences.

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**PALAVRAS-CHAVE**

Distanásia;  
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*Conclusions:* Anesthesiologists claim to have knowledge on dysthanasia and orthothanasia, but prefer, in the face of a terminally ill patient, to practice orthothanasia, although dysthanasia is usual, and results in frustration and indignation. The medical school curriculum is unsatisfactory in addressing death-related issues.

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## O anestesiologista frente à terminalidade: estudo observacional baseado em questionário

### Resumo

*Justificativa e objetivos:* Os avanços da medicina, incluindo a anestesiologia e reanimação, têm tornado cada vez mais rara a ocorrência da morte natural. Como consequência, as práticas de distanásia se tornaram habituais em uma realidade que não mais se justifica. Este estudo objetiva avaliar o conhecimento de anesthesiologistas brasileiros dos institutos da distanásia e ortotanásia. Para tal, investigamos as preferências de condutas desses profissionais dentre aquelas práticas, bem como a contribuição da graduação médica na abordagem das questões relacionadas à morte.

*Método:* Coorte prospectivo, descritivo, com abordagem quantitativa, com a inclusão de 150 anesthesiologistas inscritos na Sociedade Brasileira de Anestesiologia e que foram convidados a participarem por mensagem de e-mail. Aplicou-se questionário on-line, contendo 38 questões, elaborado pelos pesquisadores. A pesquisa foi aprovada pela Comissão de Ética em Pesquisa instrucional.

*Resultados:* Os anesthesiologistas, embora afirmem conhecer a distanásia e a ortotanásia, em sua maioria adquiriram esse conhecimento fora da graduação. Diante da terminalidade do próprio entrevistado, do seu paciente ou de um ente querido, prefere a ortotanásia, a morte em casa, priorizando a dignidade. Entretanto, esses especialistas afirmam já terem praticado, contrariados, a distanásia, mesmo quando a ortotanásia era a melhor conduta, o que lhes gerou sentimentos negativos. Quase a integralidade dos entrevistados afirmou não ter tido, na graduação, treinamento prático de conduta frente à terminalidade, embora se sintam capazes de identificá-la. A maioria não conhece a Resolução do Conselho Federal de Medicina 1.805/06, que viabiliza, no Brasil, a prática da ortotanásia. Não há influência da religião e da região político-administrativa de residência do anesthesiologista sobre as suas preferências.

*Conclusões:* Os anesthesiologistas afirmam ter conhecimento sobre distanásia e ortotanásia e preferem, diante da terminalidade, praticar a ortotanásia, embora a distanásia seja habitual, o que resulta em frustração e indignação. O ensino da graduação médica é deficitário em questões relacionadas à morte.

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## Background

Medicine along with technology have achieved notable advances, especially in diagnosis, surgery, anesthesiology, and resuscitation, significantly maintaining health, controlling and curing diseases, and making natural death increasingly uncommon.<sup>1</sup> As a result, there is an irrational search for extending life, which can transform hospitals into “modern cathedrals of human suffering”.<sup>2</sup> For many, going against human reality, death, still represents the scenario that crowns the failure of medicine, and the defiance of death would justify any effort,<sup>3</sup> even at the cost of great suffering. The endeavor to cure favors the execution of invasive, costly, painful and even ineffective procedures for end-of-life illnesses, procedures often patients do not intend, characterizing dysthanasia.<sup>4</sup>

Thus, dysthanasia makes death possible after its natural term, aiming to extend a patient’s biological life with an illness with no cure expectation, in a terminal phase, and consequently leaving patients’ dignity and comfort in the backstage.<sup>2</sup> The practice becomes material by the therapeutic obstinacy that leads to significant social consequences, reflected in the economy, social security and health, among other sectors.<sup>5</sup> The opposite of this practice is called orthothanasia, that is, humanized death, promotion of a dignified life, and it contrasts to the painful and costly tendency for postponement and disguise of finitude we have experienced in recent decades.<sup>6</sup> It is also imperative to know the differences between euthanasia and assisted medical suicide. Euthanasia, an illegal<sup>7</sup> and unethical<sup>8</sup> practice, is characterized by the agent’s will (intention), physician or not, to want the death as outcome for someone that may not

necessarily be an incurable terminally-ill patient, with the victim's will being irrelevant. Here, death occurs before its natural time and by an act of a third party, usually motivated by compassion.

Assisted medical suicide is death resulting from an act practiced by patients themselves guided by a physician. The physician only acts as a guide, indicating which button to press, drugs and how to administer them, etc.<sup>6,9</sup> The act is also a crime and unethical.<sup>7,8</sup>

As death comes closer, it is necessary to emphasize the paradigm of caring and not curing, ensuring quality of life and seeking, primarily, to alleviate the suffering of those who are leaving. Therefore, physicians, including anesthesiologists, must have clinical training and judgment to deal with human finitude. They must respect patients' rights and act in harmony with professional ethics, confidently deciding when to protect the life or dignity of a person, and whether or not to opt for orthothanasia. There is a rationale for conducting the present study in view of the above, and due to the precarious situation of the Unified Health System in meeting the constitutional dictates of ample and unrestricted access to health, increasingly demanding prioritization of budget spending.<sup>5</sup> The anesthesiologist is a professional who, although very overwhelmed by the excellence of medical practice itself, faces an interface with potential situations of occurrence of dysthanasia during practice. However, there are no concrete data on performance, as well as the preferences of these specialists when they encounter terminality of a patient under their care. Thus, this study aims to assess the knowledge of Brazilian anesthesiologists on the principles of dysthanasia and orthothanasia. To this end, we investigated the preferences and practices of professionals regarding the issues, as well as the contribution of medical schools in addressing death-related topics.

## Method

Investigative, prospective, descriptive, quantitative approach study. Only 150 anesthesiologists (30 per Brazil's region), members of the Brazilian Society of Anesthesiology (SBA), who first answered the closed questionnaire containing 38 questions in full: 18 multiple choice, seven open-ended, and 13 mixed, were included. Of these questions, twelve were sociodemographic characterization, and the others referred to the objective of the study.

The questionnaire was developed by the researchers and made available on a digital platform ([www.LimeSurvey.com](http://www.LimeSurvey.com)). The study was previously approved by the Institutional Research Ethics Committee (CAAE: 47165115.2.0000.5411).

The invitation to participate in the study was sent by the SBA, via electronic mail, to all of its 8275 members. The message included a link to the digital platform that led the research subject to the Informed Consent Form and, if there was agreement with its content, access to the questionnaire was gained by clicking the "agree" option. The study was carried out from August 4, 2015 to June 29, 2016, when the total number of subjects was reached.

Only anesthesiologist members of SBA were included and incomplete questionnaires were excluded. Surfing through

the questionnaire was not restricted in time, or in reading or reviewing responses, and it closed when subjects decided it was concluded.

The sample size was determined by the formula:

$$n = \frac{n_0}{1 + (n_0 - 1)/N} \cong \frac{n_0}{1 + n_0/N}$$

where  $n_0 = \frac{Z^2 \cdot p \cdot q}{d^2}$  and  $Z$ , the abscissa of the normal frequency curve, that defines area  $\alpha$ ; "p" is the proportion estimated in previous studies,  $q = 1 - p$ ,  $d$  is the degree of accuracy, and  $N$  the size of the population, which in this case was 150 anesthesiologists. We decided on including 30 participants from each region of Brazil, aiming at equal representation of regions.

To study the association among all studied variables<sup>10-12</sup> we used the Chi-Square test, considering a level of significance of 5%.

## Results

Answers were obtained from 1159 partially answered questionnaires, and 343 answered in full, and only the first 30 questionnaires from each Brazilian political-administrative region were considered. Sociodemographic and educational characteristics of the population studied are presented in [Table 1](#).

Eighty six percent ( $n = 129$ ) of the respondents stated knowing the differences between dysthanasia, euthanasia, orthothanasia, and assisted medical suicide. Results were not influenced by the age or sex of anesthesiologists (data not shown). However, most of the knowledge was acquired outside the academic environment (42%,  $n = 63$ ), and only 25% ( $n = 38$ ) acquired it during medical school ([Table 2](#)).

Concerningly, 139 respondents (92.7%) said they did not receive specific formal training on how to deal with end-of-life patients during undergraduate studies, and 112 individuals (74.7%) believed that the approach to ethics and law in the undergraduate medical curriculum was not satisfactory.

As a result of this academic gap, 60% of respondents said they were unaware of the content of Resolution 1.805/2006 of the Federal Council of Medicine on orthothanasia. However, this lack of knowledge was more pronounced among younger individuals, as shown in [Table 3](#). Respondents' sex did not influence this item (data not shown).

Despite the shortcomings in physicians' training, 69.3% ( $n = 104$ ) of the respondents believed they were able to diagnose whether a patient had an incurable disease, with a reserved prognosis, regardless of sex or age (data not shown).

Also, 92% ( $n = 138$ ) of respondents stated already having faced a scenario(s) during a surgical procedure in which they were working as anesthesiologists, that caused unnecessary suffering and did not add quality of life to the patient. This experience gave them, notably, a feeling of indignation and frustration ([Table 4](#)). As a practical consequence, despite the fact that most of them disagreed, anesthesiologists ended up adhering to the procedure imposed by the surgeon (46%,  $n = 69$ ).

**Table 1** General characterization of the population studied according to general demographic parameters and schooling.

Demographic parameters	Characteristics	<i>n</i>	%	
Sex	Male	93	62.0	
	Female	57	38.0	
Age	< 40 years	72	48.0	
	40–59 years	58	38.0	
	≥ 60 years	20	14.0	
Marital status	Married	115	76.7	
	Single	16	10.7	
	Divorced	13	8.6	
	Other	4	2.7	
Race	Widowed	2	1.3	
	White	109	72.6	
	Brown	36	24.0	
	Yellow	4	2.7	
Religion	Black	1	0.7	
	Catholic	83	55.3	
	Kardecist	21	14.0	
	Agnostic	20	13.2	
	Atheist	10	6.7	
	Evangelic	10	6.7	
	Jew	2	1.3	
	Buddhist	1	0.7	
	Christian	1	0.7	
	Lutheran	1	0.7	
Degree of titration	Specialization	Others	1	0.7
		Yes	131	87.3
	No	19	12.7	
	MSc	No	130	88.0
		Yes	18	12.0
	PhD	No	140	93.3
Yes		10	6.7	
Total		150	100	

*n*, number of respondents; %, percentage.

**Table 2** Place where respondents acquired knowledge on the principles of dysthanasia, euthanasia, orthothanasia and medical-assisted suicide.

Knowledge of principles <sup>a</sup>	Where knowledge was acquired	<i>n</i>	%
Has knowledge	Outside academia	63	42.0
	Medical school	38	25.0
	Specialization	14	9.3
	Observing other physicians	13	9.0
	Does not recall	3	12.0
	Before medical school	2	1.3
	MSc degree	1	0.7
	PhD degree	1	0.7
	Subtotal	129	100.0 <sup>b</sup>
Does not have knowledge		21	14.0
Total		150	100

*n*, number of respondents; %, percentage.

<sup>a</sup> According to self-assessment of respondents.

<sup>b</sup> Percentage considering those who claim to know the principles.

**Table 3** Knowledge of the content of Resolution 1.805/2006 enacted by the Brazilian Federal Council of Medicine, according to age of anesthesiologists.

Age	Has knowledge		Total
	No	Yes	
< 40 years	53 73.6% <sup>a</sup>	19 26.4%	72 48%
40–59 years	27 46.6% <sup>b</sup>	31 53.4%	58 38.6%
≥ 60 years	10 50.0% <sup>b</sup>	10 50.0%	20 13.3%
Total	<i>n</i> 90 %	60 40.0%	150 100.0%
Has knowledge	Age range		
	< 40 years	40–59 years	≥ 60 years
Yes	53 (73.6%)	27 (46.6%)	10 (50.0%)
No	19 (26.4%)	31 (53.4%)	10 (50.0%)
Total	72	58	20
			150

*n*, number of respondents; %, percentage.  
Letters express comparison between sexes, with  $p=0.004$ .

**Table 4** Feeling experienced by respondents when faced with scenarios in which the surgical procedure produced unnecessary suffering and did not add quality of life to patient.

Feeling	<i>n</i>	%
Frustration	57	38.0
Indignation	54	36.0
Resignation	15	10.0
Not sure about feelings	9	6.0
Sadness and uneasiness	8	5.3
Anger	4	2.7
Indifference	3	2.0
Total	150	100

*n*, number of respondents; %, percentage.

Between the legal assets of life and dignity, anesthesiologists agree on protecting dignity (73.3%,  $n=110$ ). However, women anesthesiologists prioritized dignity with greater emphasis ( $p=0.04$  between sexes) (Table 5). This choice is reflected in the preference for orthothanasia as an end-of-life care practice, for anesthesiologists themselves, their family members and their patients (Fig. 1), stating home as the preferred place to die (Fig. 2).

Religion and the political-administrative region of residence of anesthesiologists were not observed to influence the results presented above.

## Discussion

Little has been described on Bioethics applied to Anesthesiology. In this regard, the study “*Contribuições da Bioética para o anestesista; uma visão teórica*” (Contributions

of Bioethics to the anesthesiologist; a theoretical view) stands out.<sup>4</sup> We are not aware of any publication in the medical-legal literature, with absolute similarity to the object of the present study.

The technological advances attained by medicine require reflection and discussion based on guidelines of Bioethics with regard to the undesirable and unbearable experience of individuals in terminality. In the present study, focus was given to the principles of dysthanasia and orthothanasia.

Unlike the results of the past Brazilian census, in which men comprised the minority of the population (48.62%), in the study sample, there was a predominance of males among Brazilian anesthesiologists, in agreement with the results of Medical Demography in Brazil, 2018.<sup>13</sup>

There was also a predominance of young individuals, under the age of 40, perhaps reflecting the greater ability to use the type of tool chosen for the survey (online questionnaire). Results are slightly different from what is observed among Brazilian specialist doctors, in which individuals under 40 years of age represent 35.79%, and those over 60 years old, 20.77%. The mean age of Brazilian anesthesiologists is  $49.2 \pm 12.5$ .<sup>13</sup> The highest title observed among the anesthesiologists in the sample was specialization, which seems to reflect the scenario in Brazil. It is important to emphasize that 44% of respondents affirmed that they had already been approached by patients to talk about what they desired in terms of terminality, which reinforces the correctness in choosing the specialty to comprise the subjects of this study.

Albeit not desired by most anesthesiologists, dysthanasia was found as current practice. Reality shows that the human being, having experienced the exacerbated technicality of the 20th century, in which technology and experimental sciences have overlapped human sciences, now seeks to rebalance values with the humanization of interpersonal relationships.<sup>4</sup> Thus, the previous scenario of almost

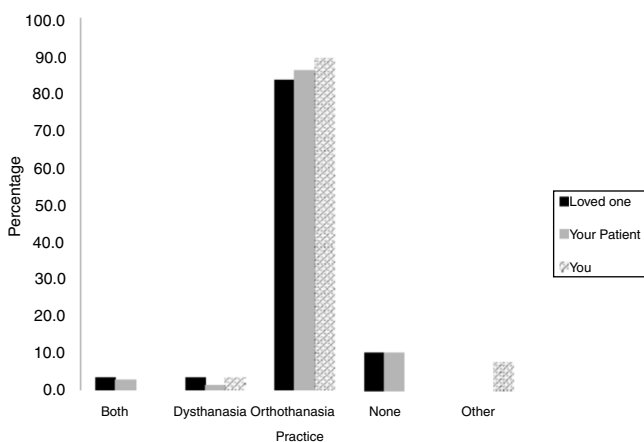
**Table 5** Preference between human being’s life or dignity according to sex of the anesthesiologist.

Sex	Right		Total
	Dignity	Life	
Female	47 82.5 <sup>a</sup>	10 17.5	57 100.0
Male	63 67.7 <sup>b</sup>	30 32.3	93 100.0
Total	<i>n</i> 110 73.3%	40 26.7%	150 100.0%

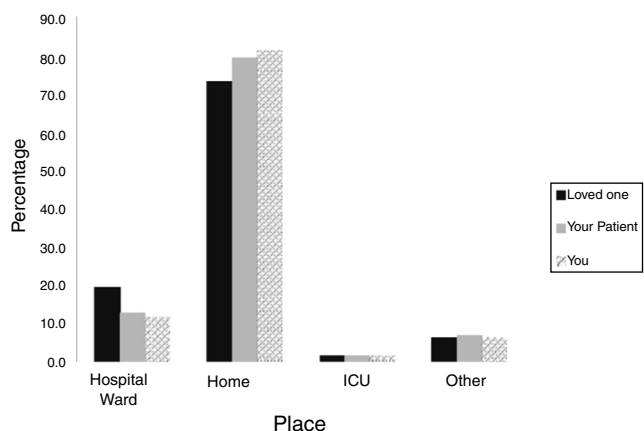
  

Right	Gender		Total
	Female	Male	
Dignity	47 (82.5%)	63 (67.7%)	110 (73.3)
Life	10 (17.5%)	30 (32.3%)	40 (26.7%)
Total	57 (38.0%)	93 (62.0%)	150.0 (100.0%)

*n*, number of respondents; %, percentage.  
Letters express comparison between sexes, with  $p = 0.04$ .



**Figure 1** Distribution of physicians’ preferences between dysthanasia/orthothanasia when performed to themselves, their patients and their loved ones. Results are expressed as percentages ( $p > 0.05$ ).



**Figure 2** Physicians’ preferences regarding place of death when applied to themselves, their patients and their loved ones. Results expressed as percentages ( $p > 0.05$ ).

immortality offered by medicine, at the expense of the consumption of fortune and dignity, is now no longer advantageous and, therefore, undesirable. The great majority of anesthesiologists accept death as an integral part of life and choose to protect a human being’s right to dignity at the expense of prolonging existence.

However, the desire for orthothanasia is not only the desire of anesthesiologists. In a scientific article entitled “Legal and ethical reflections on the end of life”, 83.3% of family members of patients admitted to intensive care units in a terminal stage were favorable to orthothanasia.<sup>14</sup> Therefore, orthothanasia is not a preference exclusive to scientific elite and without personal ties to terminal patients. It is even the longing of family members who are directly experiencing death. Terminal patients admitted to intensive care units who refused treatment or requested its interruption, perceived the proposed treatment as futile, as the motivation observed for their choices, that is, it represented dysthanasia.<sup>15</sup>

An integrative literature review, including 25 articles related to euthanasia and/or dysthanasia and/or orthothanasia, showed that dysthanasia is still frequent in Brazil.<sup>16</sup> Physicians, often insecure in practicing orthothanasia, end up practicing dysthanasia, which reflexively, increases the rates of dysthanasia, a miserable death resulting from the denial of access to new technologies and medical care.<sup>17</sup> Most anesthesiologists claim to understand that human life is only interesting if dignified. As a consequence, it is undeniable that, for this population, the practice of dysthanasia is not the most appropriate; given idolatry of life would be an unavoidable obstinacy.

In this survey, most respondents stated that the content of ethics and law, with regard to addressing issues related to terminality and palliative care, was not satisfactory for them during undergraduate school. This might account for some of the causes of insecurity of physicians in defending the practice of acts of orthothanasia, unawareness of current resolutions. The deficiency in teaching medicine more focused on the human-being, without the deification

of the technique, has already been reported in an editorial in the *Jornal de Pediatria*, of the Brazilian Society of Pediatrics, which stated that the loss of quality in teaching/training during school stems from the disorderly growth of medical schools and the bulging of new knowledge and technologies.<sup>18</sup>

The harmful influence of neglecting training of health professionals culminates with recurring misunderstandings with regard to passive euthanasia and orthothanasia, considered synonyms in several scientific articles published on the subject, many of which written by physicians.<sup>19</sup> Admitting synonymy is ignoring Brazilian legislation and medical ethics, as those are different principles with very different objectives. In passive euthanasia, abandonment of any therapy is observed in order to shorten life, whereas in orthothanasia, on the contrary, full care is guaranteed to the patient and family to ensure the relief of symptoms that lead to suffering of the terminally ill, and preserve dignity and allow death to occur in its natural term. Therefore, while in the former total omission aims at death, in the latter, full and multidisciplinary action aims at a dignified life in face of terminality, always respecting the autonomy of the will of patients or, if unable, of the individuals responsible for a patient. While one is a crime, the other is lawful and ethical conduct. Such misunderstanding is unraveled by the analysis of CFM Resolutions 1.805/06, 1.931/09 and the Penal Code.<sup>7,8,20</sup>

The anesthesiologists recruited in the study reported having already encountered situation(s) in which the surgical procedure resulted in dysthanasia. Faced with this situation, many anesthesiologists practice, in co-authorship, albeit unwillingly, dysthanasia, which generates frustration, indignation, among other negative feelings. In a research carried out with intensive care nurses, the dysthanasia practiced by the medical team was observed to cause them "suffering, frustration and restlessness".<sup>15</sup> What can be observed is that the persistence of this reality imposes suffering on the sick, but it can also compromise the health of the team involved in their care.

Most anesthesiologists choose orthothanasia, regardless if it is a patient, a loved one or themselves. Still a small portion of these specialists prefer to practice dysthanasia when it comes to their loved ones or their patients. In a survey on the preferences of Brazilian intensive care physicians on the two practices, 100% of them believed that orthothanasia is the appropriate practice, but only 93% say it is possible to put it into effect.<sup>21</sup>

Another relevant element that indicates the insistence on the practice of dysthanasia is the patient's place of death. While in orthothanasia palliative care has a multidisciplinary scope, aiming at quality of life, that is, comfort, encouragement, humanization to receive death, in dysthanasia, therapeutic obstinacy requires, as a rule, hospitalization for the enjoyment of technological support for maintenance of vital signs.

Thus, 2016 IBGE (Brazilian Institute of Geography and Statistics) data on where Brazilians have died tells us that 73.07% of deaths occur in hospitals.<sup>22,23</sup> In other words, dysthanasia, unfortunately, seems to be a major reality. The present study showed that respondents' favorite place for the moment of death is home, both for themselves, as well as for patients and loved ones.

With regard to the law in Brazil, there is a lack of legislation to encompass orthothanasia. The Federal Legislative Branch, to date, does not discipline the matter directly, but indirectly, as, for example, Law 10.406/2002 (Civil Code)<sup>24</sup> which, in its Article 15, authorizes the patient to refuse certain medical procedures, and Law 8.080/90 (disciplines the SUS),<sup>25</sup> which in its Article 7, III, recognizes patients' right to autonomy.

This legal dryness, in which objectivity does not exist, contributes to the fear of practicing orthothanasia, as physicians find themselves held hostage by interpretations of prosecutors and judges, often lay and ignorant on the issue. This can cause undesirable, but avoidable concern, with the insistence of the improper, unethical and legal practice of dysthanasia.

Orthothanasia often gives patients the opportunity to fulfill their last wishes, say goodbye to loved ones, forgive their foes, program their last steps, etc. It is undeniable that, to promote the paradigm changes so ingrained in our society, in which therapeutic obstinacy still proves to be occurring, we must fight for effective legislation and commit to education that pushes away the insecurity in management of terminality.

In this aspect, appropriate training of health professionals, providing them with a more holistic and human view of the work they perform, and the interaction of other areas of knowledge, such as Ethics and Law, seems to be an essential condition of humanization in dealing with terminality, imposing an immediate rethinking of the curriculum of medical schools. Education is the principle.

As limitations of the study, the absence of an explanation of the content of Resolution CFM 1.805/06 can be pointed out; non-assessment, among participants, of the real knowledge of the principles object of the study; the type of tool chosen has its own bias in the form of recruitment; and the motivation bias resulting from the number of questions in the questionnaire.

We conclude, from the results obtained, that anesthesiologists claim they are aware of the principles of dysthanasia and orthothanasia, and their preference falls on the latter. There is a gap to be filled in medical education regarding terminality. Professionals experience negative feelings, such as frustration and indignation, when practicing dysthanasia.

## Conflicts of interest

The authors declare no conflicts of interest.

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