ACTA MÉDICA PORTUGUESA
A Revista Científica da Ordem dos Médicos

# Perceptions of Portuguese Doctors Regarding Hastened Death Scenarios: A Cross-Sectional Study

# Perceções dos Médicos Portugueses sobre Cenários de Morte Antecipada: Um Estudo Transversal

Eva PEREIRA[1], Sílvia MARINA✉[1,2], Miguel RICOU[1,2]
**Acta Med Port 2023 Feb;36(2):105-112** ▪ https://doi.org/10.20344/amp.17290

## ABSTRACT

**Introduction:** A growing number of countries have legalized the process of hastening death. At a time when laws decriminalizing hastened death have been passed in the Portuguese Parliament, the development of research related with decision making regarding this issue is of crucial importance. This study seeks to evaluate, in a sample of Portuguese doctors, whether the presentation of clinical vignettes changes the agreement with the practice of hastened death compared with general scenarios.

**Material and Methods:** A questionnaire was distributed among academic physicians from medical schools across Portugal to assess their level of agreement or disagreement with the practice of hastened death. The questionnaire included eight standard cases and eight clinical vignettes framed under conditions defined by law for the practice of hastened death. Differences were analyzed using the *t*-Student test for paired samples.

**Results:** There were statistically significant differences in five scenarios ($t = 3.46$; $p < 0.05$; $t = 2.47$; $p < 0.05$; $t = 4.28$; $p < 0.05$; $t = 3.38$; $p < 0.05$; $t = 3.66$; $p < 0.05$) with greater agreement concerning the clinical vignettes. The highest acceptance was found in the requests made by adults with terminal and incurable illnesses.

**Conclusion:** Agreement increased when the clinical vignette was presented in comparison with the respective standard for most of the cases of hastened death presented.

**Keywords:** Decision Making; Euthanasia/legislation & jurisprudence; Portugal; Suicide, Assisted/legislation & jurisprudence

## RESUMO

**Introdução:** Um número crescente de países tem vindo a legalizar o processo de antecipação da morte. Numa altura em que a lei sobre a despenalização da morte antecipada foi aprovada no parlamento português, o desenvolvimento de investigação relacionada com o processo de tomada de decisão assume crucial importância. Com este estudo pretendemos avaliar se a apresentação de vinhetas clínicas altera a concordância com a prática de morte antecipada, comparando com cenários descritos de forma geral, numa amostra de médicos portugueses.

**Material e Métodos:** Foi distribuído um questionário por médicos docentes nas faculdades de Medicina do país, para avaliar o grau de concordância com a prática de morte antecipada. O questionário contemplou oito casos norma e oito vinhetas clínicas enquadrados em condições definidas na lei para a prática de morte antecipada. As diferenças foram analisadas através do teste *t-Student* para amostras emparelhadas.

**Resultados:** Verificaram-se diferenças estaticamente significativas em cinco cenários, com uma maior concordância em relação às vinhetas clínicas ($t = 3,46$; $p < 0,05$; $t = 2,47$; $p < 0,05$; $t = 4,28$; $p < 0,05$; $t = 3,38$; $p < 0,05$; $t = 3,66$; $p < 0,05$). O cenário com maior concordância foi o referente a pedidos por parte de adultos com doença incurável fatal.

**Conclusão:** A concordância com a vinheta clínica aumentou em comparação com o respetivo caso norma para a maioria dos casos de morte antecipada apresentados.

**Palavras-chave:** Eutanásia/legislação & jurisprudência; Portugal; Suicídio Assistido/legislação & jurisprudência; Tomada de Decisão

## INTRODUCTION

The existence of various conceptions and ideas regarding euthanasia is old. The word euthanasia comes from the Greek terms *eu* and *thanatos*, which mean, respectively, 'good' and 'death'.[1] In general, it should be understood as "deliberately and intentionally carrying out an act with the clear intention of ending the life of a competent and informed person with an incurable disease who has voluntarily requested that his or her life be ended", corresponding to the concept of active euthanasia.[2] In contrast, the term 'medically assisted suicide' occurs when a physician prescribes to the patient the means to end his own life, but has no active role in the administration of the lethal substance, with the final action being performed by the patient himself.[3] Both actions are aimed at anticipating the moment of someone's death, and can be globally designated by the expression 'hastened death',[4] used throughout this paper to refer to voluntary euthanasia and physician assisted suicide.

Technological advances in healthcare have enabled an increase in average life expectancy, leading to a demographic shift in human mortality.[5] As an example, in Portugal data from the National Institute of Statistics indicate that in the three-year period 2016 - 2018, the estimated life expectancy at birth was 80.8 years for the total population, which shows an increase of 1.51 years, when compared to 2008 - 2010.[5] Consequently, more patients die at an advanced stage of chronic disease, most of them marked by a terminal and disabling phase, whereas the number of deaths from old age or senility has decreased.[6] Therefore, the

1. Faculty of Medicine. University of Porto. Porto. Portugal.
2. CINTESIS - Center for Health Technology and Services Research. Porto. Portugal.
✉ **Autor correspondente:** Sílvia Marina. silviamarina@outlook.com
**Recebido/*Received*:** 10/10/2021 - **Aceite/*Accepted*:** 18/08/2022 - **Publicado *Online*/*Published Online*:** 12/10/2022 - **Publicado/*Published*:** 01/02/2023

discussion of hastened death has faced increasing debate in the medical field, and in countries where the practice is legal, it is an integral part of the healthcare.[7]

The involvement of healthcare professionals, particularly the physician, has become evident in the legislation, since they have an essential role in the decision making process for a request of this kind as well as for the implementation of the practice of hastened death.[7] Therefore, the physician's role, in addition to the intervention in the relief of suffering, is also related with legal and ethical issues. On one hand, it is based on the importance of respecting individual autonomy, and, on the other hand, on the respect for the patient's life.[3] Given the values at stake, which are crucial to the structuring of our society, putting hastened death under legal parameters seems to be the only solution.[3] It is, however, impossible to design a comprehensive law that meets the needs of all potential cases of hastened death.[8]

The first country to legalize euthanasia was the Netherlands in 2001, followed by Belgium the following year, and years later by Luxembourg, Colombia, Canada, and Australia (State of Victoria).[7] The practice was recently legalized in Spain.[9] Physician assisted suicide, however, has been permitted in Switzerland since 1934, and is now permitted in Germany, the Netherlands, Luxembourg, Canada, 10 US states (California, Colorado, Hawaii, Maine, Montana, New Jersey, Oregon, Vermont, Washington, and the District of Columbia), Australia (the State of Victoria).[7] In most countries, the hastened death law is available to adults suffering from an incurable terminal illness. Additionally, in Belgium, the Netherlands, Luxembourg and Spain, the law also allows this practice in adults with definitive injuries of non-terminal nature.[9–12]

A common condition in legislation around the world is the long-lasting and intolerable suffering of the patient. This leads to no other solution for the patient other than anticipating death, with a constant, conscious, free, and repeated wish to die.[13] None of the countries where hastened death is regulated refers to patients with mental disorder under the conditions established by law.[10–12] However, in those countries where a non-terminal illness can be a reason to request death, euthanasia can be carried out[14] if it is ruled out that the psychiatric illness does not affect the patient's decision-making capacity.

Public debate began in the Netherlands regarding people aged 70 and older, without associated conditions, and the idea was being able to request hastened death when they considered their life to be 'complete'.[15] The issue focuses primarily on elderly people who feel that their life no longer serves any purpose and call for the right to autonomy and determination when it comes to choosing their own time of death.[15] Nevertheless, hastened death following a 'complete life' is not eligible in any hastened death legislation.[15]

The decision to die early is also regulated by Advance Life Directives in Belgian and Dutch Law, which grants the universal right of expressing in written form their wish to anticipate death in the event of illness.[10,11] As far as the Dutch Law is concerned, these documents make hastened death possible in cases of dementia, if this has been previously written in a living will.[11]

In 2014, Belgium was the first country to legalize hastened death in children without any age limit, given consent from both the child and the parents.[10] The Netherlands also allows euthanasia in children over 12 years old with the parents' consent and after 16 years old even without the parents' consent.[11] It should also be noted that in the Netherlands, under the Groningen Protocol, it is possible to carry out abortion at the end of the gestation period or euthanasia in newborns.[16]

In Portugal, a bill to legalize hastened death has been under discussion since February 2020.[17] The law approved by the Portuguese Parliament and subsequently vetoed by the President of the Republic, allows requests for hastened death of adult patients whose suffering is intolerable, in cases of definitive injury of extreme severity or incurable and fatal illness.[17] Patients must be able to express their own conscious and informed will, and not suffer from a mental disorder or medical condition affecting their ability to make decisions.[17]

Several studies have found that agreement to hasten death can be influenced when faced with concrete scenarios.[18] Factors affecting these scenarios that tend to determine approval may be related with the patient's age, average life expectancy[19] and degree of disability.[20] Suffering also seems to play an important role, and cases of suffering associated with a physical condition show greater compliance than suffering caused by psychological factors.[20] In a study by Dany *et al*[21] using a sample of French physicians, it was shown that the general opinion in favor of euthanasia was lower when compared to its acceptance in the face of the presentation of specific cases.

Based on these assumptions, this study aims to analyze the opinions of Portuguese physicians regarding their agreement with the practice of hastened death according to scenarios described in general and specific clinical reports.

## MATERIAL AND METHODS

The present study consisted of a cross-sectional analysis. The study population consisted of academic physicians from all medical schools in Portugal.

### Participants

The sample consisted of 65 academic physicians in higher education, 41.5% were female and 58.5% were male with a mean age of 48.18 years (SD = 1.790).

**Instruments**

A questionnaire was developed in order to gauge the opinions of academic physicians in medical schools about the agreement with the practice of hastened death between general scenarios and clinical vignettes. The first section consisted of up to eight general cases, entitled standard cases (Table 1); these were defined according to the law recently passed in the Portuguese Parliament[17] and in accordance with international legislation. A hastened death scenario was also included following the Dutch government's letter on 'complete life'.

The second section presented eight detailed case descriptions in the form of clinical vignettes [Appendix 1 (https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/17290/Appendix_01.pdf)], each corresponding to a standard case from the previous section. Each vignette presents a case report consulted and adapted from the literature[22–31] where the patient sought to hasten death.

We used an e-Delphi panel to collect information and found agreement among a group of experts concerning the suitability of the standard cases and clinical vignettes. This group provided a conceptual, semantic, idiomatic, and empirical analysis.[32,33] The questionnaire was sent by email to the panel, composed of seven experts, including researchers and healthcare professionals. The analysis was performed using a dichotomous classification – agree and disagree – with space for comments related with each item. Changes to the questionnaire were based on the panel's suggestions. After analysis by the research team, the new version of the questionnaire was sent to the panel, and was evaluated in as many stages as necessary to reach a consensus with at least 80% agreement among the panel members.[32,33]

The answer to each of the situations presented was given on a 5-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree).

The first section, in addition to the standard cases, included a question to assess physician perceptions about the possibility of each standard case being allowed in Portugal according to the discussed legislation.[17] This question was answered on a dichotomous scale – "would be possible," "would not be possible," and "do not know if it would be possible."

**Procedures**

We requested support for data collection from the various medical schools across the country to send the questionnaire to physicians. Our requests were answered online through the Google Forms platform. The link to access the questionnaire was sent by email to all participants. Data collection took place between January and February 2020.

First, information about the study was presented, as well as clarifications about confidentiality, privacy, and data protection. All performed procedures were in accordance with the 1964 Declaration of Helsinki, and its subsequent amendments or comparable ethical standards, and the General Data Protection Regulation was followed. The study was submitted to the Ethics Committee for Health of the Centro Hospitalar Universitário de São João and a favorable opinion was obtained (process number 444-2020).

**Data analysis**

Statistical analysis was performed using the Statistical Package for the Social Sciences (IBM SPSS, version 26.0). Descriptive statistical analyses were performed to characterize the sample and the agreement variable. Skewness

Table 1 – Standard cases

| | |
|---|---|
| 1. | An adult in lasting and unbearable suffering, with an incurable and fatal disease, by his own conscious, free and informed decision, asks for help from health professionals to hasten death.[10–12,17] |
| 2. | An adult in long-lasting and unbearable suffering, with an incurable disease or definitive but non-fatal injury, by his or her own conscious, free and informed decision, asks for help from health professionals to hasten death.[10–12,17] |
| 3. | An adult over the age of 70, who considers his life complete and does not want to continue with it, by his own conscious, free and informed decision, asks for the help of health professionals to hasten death.[15] |
| 4. | An adult with incurable disease or definitive injury and permanent inability to manifest his will, manifests his or her decision to hasten death with the help of health professionals, through an Advanced Living Will.[10,11] |
| 5. | A child older than 12 years of age in lasting and unbearable suffering, with incurable disease or definitive injury, by conscious, free and informed decision, asks health professionals for help to hasten death, after informed consent of the caregivers.[10,11] |
| 6. | A child under 12 years of age, in long-lasting and unbearable suffering, with incurable disease or definitive injury. The parents, expressing conscious, free and informed will, ask health professionals for help to hasten death.[10] |
| 7. | A newborn with a severe, incurable and terminal condition that causes long-lasting and unbearable suffering and no prospect of improvement. With a high probability of dying within a short time after birth, no doubts about the diagnosis and prognosis. Both parents and doctor agree that there is no alternative solution other than hastening the end of life. The parents give informed consent.[16] |
| 8. | A patient suffering from a psychiatric disorder refractory to all lines of treatment, in lasting and unbearable suffering, able to make a free and informed decision, asks for help from health professionals to hasten death.[10,11] |

and kurtosis values were below 3 and 10, respectively, suggesting no severe deviations from the normal distribution, and therefore, the appropriateness of using parametric procedures.[34] In our data, values ranged between 0.5 and 1. To determine the differences in agreement between the standard cases and the clinical vignettes, the *t*-Student test for paired samples was performed. Values of $p < 0.05$ were considered statistically significant.

## RESULTS

The characteristics of the sample are shown in Table 2. Of the participants, 41.5% were female and 58.5% were male with a mean age of 48.18 years (SD = 1.790). Regarding length of service, most had more than 15 years (58.5%); 16.9% had between six and 10 years; 13.8% from one to five years; 9.2% from 11 to 15 years; and 1.5% with less than one year.

Table 3 presents the results of the degree of agreement regarding the applicability of hastened death in the eight standard cases. The highest level of agreement was found in the case involving adults with incurable and fatal disease (Case Norm 1), with approximately 57% of the sample in favor of the application of hastened death in this scenario. The highest disagreement regarding the practice of hastened death was found in Standard Case 3, concerning elderly people over 70 years old with a sense of completed life. Approximately 86% of the sample disagreed with hastened death in this scenario. As for Standard Case 2, including adults with irreversible but non-fatal injury, the agreement and disagreement was similar (43% respectively). As for a request for hastened death through an advanced living will (Case Norm 4), about half of the physicians disagreed and approximately 40% agreed with this scenario. In cases concerning children (Case Norm 5 and 6), more than half of the physicians (53.8% in both) disagreed with the practice of euthanasia. In Standard Case 7 concerning newborns with severe, incurable, and terminal conditions that entailed unbearable suffering and no prospect of improvement, 52.3% of the physicians agreed with hastening death. Regarding Standard Case 8 concerning patients with psychiatric disorders with decision-making capacity who require hastened death, most physicians disagreed (53.8%).

Table 2 – Characteristics of the sample

| Gender | n | (%) |
|---|---|---|
| Female | 27 | (41.5) |
| Male | 38 | (58.5) |
| Age | **Mean** | **SD** |
| | 48.18 | 1.79 |
| Length of service (years) | **Mean** | **SD** |
| | 4.09 | 0.15 |
| | **n** | **(%)** |
| > 15 years | 38 | (58.5) |
| 11 - 15 years | 6 | (9.2) |
| 6 - 10 years | 11 | (16.9) |
| 1 - 5 years | 9 | (13.8) |
| < 1 year | 1 | (1.5) |

n: sample size; %: percentage; M: mean of the data; SD: standard deviation; *t*-Student: Student *t*-test for paired samples; *p*: level of significance

The results of agreement and disagreement with each of the clinical vignettes corresponding to each standard case are presented in Table 4. In Clinical Vignette 1, the majority of the sample (53.9%) agreed with hastened death. In Clinical Vignette 2, the percentage of agreement for hastened death increased slightly to 55.4%. Most physicians (80%) disagreed with the practice of hastened death in Clinical Vignette 3. In Clinical Vignette 4, 44.6% of the physicians agreed with the practice of hastened death. Approximately 45% of physicians agreed with the request for hastening death in Clinical Vignette 5. In the scenario reflecting the case of a 10-year-old child (Clinical Vignette 6), the percentage of physicians who disagreed (41.5%) was higher

Table 3 – Agreement with the applicability of hastened death in standard cases

| | Mean | SD | Response percentage per case | | | | |
|---|---|---|---|---|---|---|---|
| | | | I strongly disagree | I disagree | Neither agree nor disagree | I agree | I strongly agree |
| Standard case 1 | 3.54 | 1.592 | 20.0 | 7.7 | 15.4 | 12.3 | 44.6 |
| Standard case 2 | 3.03 | 1.600 | 26.2 | 16.9 | 13.8 | 13.8 | 29.2 |
| Standard case 3 | 1.55 | 1.090 | 72.3 | 13.8 | 4.6 | 4.6 | 4.6 |
| Standard case 4 | 2.88 | 1.654 | 32.3 | 15.4 | 13.8 | 9.2 | 29.2 |
| Standard case 5 | 2.54 | 1.552 | 40.0 | 13.8 | 16.9 | 10.8 | 18.5 |
| Standard case 6 | 2.40 | 1.508 | 44.6 | 9.2 | 24.6 | 4.6 | 16.9 |
| Standard case 7 | 3.25 | 1.649 | 29.2 | 3.1 | 15.4 | 18.5 | 33.8 |
| Standard case 8 | 2.58 | 1.540 | 36.9 | 16.9 | 15.4 | 12.3 | 18.5 |

M: mean of the data; SD: standard deviation

Table 4 – Agreement with the applicability of hastened death in cases as clinical vignettes

| | Mean | SD | Response percentage per case | | | | |
|---|---|---|---|---|---|---|---|
| | | | I strongly disagree | I disagree | Neither agree nor disagree | I agree | I strongly agree |
| Clinical vignette 1 | 3.45 | 1.552 | 20.0 | 7.7 | 18.5 | 15.4 | 38.5 |
| Clinical vignette 2 | 3.42 | 1.550 | 18.5 | 13.8 | 12.3 | 18.5 | 36.9 |
| Clinical vignette 3 | 1.80 | 1.240 | 60.0 | 20.0 | 7.7 | 4.6 | 7.7 |
| Clinical vignette 4 | 3.14 | 1.519 | 21.5 | 15.4 | 18.5 | 16.9 | 27.7 |
| Clinical vignette 5 | 3.06 | 1.560 | 26.2 | 12.3 | 16.9 | 18.5 | 26.2 |
| Clinical vignette 6 | 2.80 | 1.427 | 27.7 | 13.8 | 24.6 | 18.5 | 15.4 |
| Clinical vignette 7 | 3.18 | 1.667 | 29.2 | 7.7 | 12.3 | 16.9 | 33.8 |
| Clinical vignette 8 | 2.38 | 1.331 | 35.4 | 20.0 | 26.2 | 7.7 | 10.8 |

M: mean of the data; SD: standard deviation

than those who agreed (33.9%). In the case of a newborn (Clinical Vignette 7), 50.7% of physicians agreed with the practice of hastened death. As for Clinical Vignette 8 involving a patient with a mental disorder, 55.4% disagreed with hastening death practice.

Table 5 shows the differences in agreement with the practice of hastened death between the standard cases and the clinical vignettes. Statistically significant differences were found between: Standard Case 2 and Clinical Vignette 2, Standard Case 3 and Clinical Vignette 3, Standard Case 4 and Clinical Vignette 4, Standard Case 5 and Clinical Vignette 5, and Standard Case 6 and Clinical Vignette 6. The results indicated that in cases 2, 4, and 5 the level of agreement increased significantly ($t$ = 3.46; $p$ < 0.05; $t$ = 2.47; $p$ < 0.05; $t$ = 4.28; $p$ < 0.05) when presented with the corresponding clinical vignettes (case-specific description). In cases 3 and 6, although the difference was significant ($t$ = 3.38; $p$ < 0.05; $t$ = 3.66; $p$ < 0.05) and there was an increase in the mean in the corresponding clinical vignettes, results remained below 3 (cut-off for agreement).

Table 6 shows the physician perceptions about the bills approved in the Portuguese Parliament. Approximately 60% of the physicians thought that the Standard Case 1 would be possible according to the bill approved in the Portuguese Parliament. Regarding the Standard Case 2, only 35.4% of the physicians stated that this situation would be eligible for hastened death under this law. As for standard cases 3, 4, 5, 6, 7 and 8, the highest percentage of physicians stated that it would not be possible to carry out hastened death.

Table 5 – Analysis of the difference in the applicability of hastened death between standard cases and clinical vignettes

| Cases | M | SD | *t*-Student | *p* |
|---|---|---|---|---|
| Standard case 1 | 3.54 | 1.59 | 1.23 | 0.22 |
| Clinical vignette 1 | 3.45 | 1.55 | | |
| Standard case 2 | 3.03 | 1.60 | 3.46 | 0.00 |
| Clinical vignette 2 | 3.42 | 1.55 | | |
| Standard case 3 | 1.55 | 1.09 | 3.38 | 0.00 |
| Clinical vignette 3 | 1.80 | 1.24 | | |
| Standard case 4 | 2.88 | 1.65 | 2.47 | 0.02 |
| Clinical vignette 4 | 3.14 | 1.52 | | |
| Standard case 5 | 2.54 | 1.55 | 4.28 | 0.00 |
| Clinical vignette 5 | 3.06 | 1.56 | | |
| Standard case 6 | 2.40 | 1.51 | 3.66 | 0.00 |
| Clinical vignette 6 | 2.80 | 1.43 | | |
| Standard case 7 | 3.25 | 1.65 | 0.52 | 0.60 |
| Clinical vignette 7 | 3.18 | 1.67 | | |
| Standard case 8 | 2.58 | 1.54 | 1.46 | 0.15 |
| Clinical vignette 8 | 2.38 | 1.33 | | |

M: mean of the data; SD: standard deviation; *t*-Student: the student *t*-test for paired samples; *p*: level of significance

Table 6 – Physicians' perceptions on eligibility to request hastened death according to the bills approved in the Portuguese Parliament

| | It would be possible (%) | It would not be possible (%) | I do not know if it would be possible (%) |
|---|---|---|---|
| Standard case 1 | 61.5 | 13.8 | 24.6 |
| Standard case 2 | 35.4 | 27.7 | 36.9 |
| Standard case 3 | 4.6 | 83.1 | 12.3 |
| Standard case 4 | 29.2 | 36.9 | 33.8 |
| Standard case 5 | 9.2 | 53.8 | 36.9 |
| Standard case 6 | 10.8 | 55.4 | 33.8 |
| Standard case 7 | 26.2 | 27.7 | 46.2 |
| Standard case 8 | 12.3 | 44.6 | 43.1 |

%: percentage

## DISCUSSION

In this study, the highest level of agreement with hastened death was observed in the standard case concerning adults with long-lasting and unbearable suffering and incurable and fatal illness, where 57% of the physicians in the sample were in favor. This is in agreement with the results of a previous study carried out on a sample of Portuguese physicians.[1]

Approximately half (52.3%) of the physicians included in the sample agreed with hastening death in the standard case of a newborn who suffered from a severe and terminal condition with minimal chance of survival. Conversely, the lowest level of agreement was observed in standard cases 3 (9.2%), 5 (29.3%), 6 (21.5%), and 8 (30.5%).

Most doctors (86%) disagreed with the practice of hastened death in the standard case concerning elderly people without a diagnosed disease, which is not surprising since there is no country in the world where such practice is legislated. This reference comes from the Netherlands, and the Dutch government itself argues that cases like this cannot be included in the categories of euthanasia or assisted suicide, since no medical condition is the cause of their intolerable suffering.[15]

More than half of the physicians participating in the study opposed hastening death in cases concerning children, which seems to go along with the fact that age is a conditioning factor in the agreement with hastened death.[19] However, in the case of a newborn, about half (52.3%) of the physicians in the sample did agree with hastened death. It would be important to understand this issue and, in the future, to assess the motivations that may be behind this difference.

Similarly, the majority (54%) disagreed with the applicability of hastened death for patients with psychiatric disorders causing enduring and unbearable suffering with decision-making capacity. This is in line with previous research[20] where the opinions in favor of hastened death were lower in cases of suffering with no underlying physical dimension.

As in previous studies, the data corroborate that life expectancy seems to play an important role when it comes to physicians' acceptance of hastened death.[19] In fact, the lower acceptance of Standard Case 2 compared with terminal illness (Standard Case 1) highlights this.

In summary, the physicians in this sample favor the terminal nature of the disease and the patient's self-determination in the acceptance of hastened death in the standard cases.

The concordance between standard cases and clinical vignettes increases significantly in cases of adults with incurable diseases or definitive injuries (Clinical Vignette 2), elderly people over 70 years old with a complete sense of life (Clinical Vignette 3), request for hastened death described in a living will (Clinical Vignette 4), a child over 12 years old (Clinical Vignette 5) and a child under 12 years old (Clinical Vignette 6).

These results reinforce the idea that agreement with hastened death may not be similar when comparing the application of hastened death in the standard case with the corresponding clinical vignette. This is in accordance with a previous study[21] where the opinion in favor of hastened death increased when a specific case was presented. The study showed that clinicians may take a disparate position when faced with a different level of personal involvement. It should also be noted that the opinions in favor of euthanasia may vary with the public presentation of emblematic cases, which may contribute to the growing opinion in favor of hastened death in several countries.[18] Our results point out that in the face of a concrete clinical situation, the acceptability of hastened death increased, possibly due to a greater identification with the patient's suffering.

In cases 1, 7 and 8, there were no statistically significant differences between the standard cases and the corresponding clinical vignettes. In fact, Case 1 has the highest levels of agreement among physicians. For this reason, the terminal nature of life seems to be a determining factor in the agreement with hastened death. In this sense, it

may happen that participants who are not against hastened death motivated by personal issues, will end up agreeing with this standard case since it is the most common, and it is contemplated in the legislation of all the countries that accept this practice. It is, therefore, to be expected that there isn't an increased level of agreement in this case.

The fact that the standard case and Clinical Vignette 7 correspond to a newborn, may represent considerable specificity for the participants, so that there were no differences between the standard case and the specific case. The same is true for Case 8, in which the particularity refers to the absence of physical suffering, since it is a mental health illness. This is clear both in the standard case and in the vignette.

The levels of perception of physicians regarding the generalizability of the standard cases, considering the bills under parliamentary discussion in Portugal, seemed to suggest a considerable lack of knowledge about the proposed legislation. In fact, only in Case 1, did most physicians perceive that it was possible to carry out hastened death. In the case of definitive non-fatal injury (Standard Case 2), only 35.4% of the participants knew that this was possible. In Standard Case 3 there was an apparent certainty on the part of the participants that hastened death would not be possible (83.1%). In all other cases, none of which have been accepted in Portugal's legislative proposal, there are percentages of unawareness above 30%, reaching almost half of the participants. According to the proposed laws, hastened death would only be eligible in standard cases 1 and 2, corresponding, respectively, to adults with incurable and fatal disease and/or definitive non-terminal injury, which entail unbearable and long-lasting suffering.[17]

It should be noted that, since a convenience sample was used, the conclusions cannot be generalized to the population of Portuguese doctors. The replication of this study with a different type of sample, using doctors from all over the national health service, should be considered for future research. However, most academic physicians play the simultaneous role of doctor and tutor, and for this reason have experience in clinical practice, similar to that of other doctors.[35] Nevertheless, academic physicians play an active role in the integration of research projects and publications, which could be an advantage in this context.[35]

It would be interesting to conduct this study including nurses as well, since the law provides that they are also qualified healthcare professionals to practice or help in the act of hastening death.[17]

## CONCLUSION

Agreement increased significantly when the clinical vignette was presented in comparison with the respective standard for most of the cases of hastened death presented, and therefore presenting a specific case seems like a determining factor for agreement. This shows that identification with the patient's suffering is a central condition for agreement to hasten death.

The existence of terminal illness, the patient's self-determination, and suffering are likely the central conditions for agreeing with hastened death. This should be extensively promoted, considering that physicians play a central role in the process, and that the law may be approved in Portugal.

## ACKNOWLEDGMENTS

The authors thank the Student Association of the Institute of Biomedical Sciences Abel Salazar, the National Association of Medical Students, the Communication and Image Office of the Faculty of Medicine of the University of Porto, and the Medical Faculties of the country for their support in the data collection.

## AUTHOR CONTRIBUTIONS

EP: Design and draft of the manuscript. Data interpretation.

SM: Contribution to the design. Processing, analysis and interpretation of data. Critical review of the manuscript.

MR: Contribution to the design. Critical review and final approval of the manuscript.

## PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

## DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

## DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

## PATIENT CONSENT

Obtained.

## COMPETING INTERESTS

The authors have declared that no competing interests exist.

## FUNDING SOURCES

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

## REFERENCES


1. Ricou M, Azevedo L, Silva S da. Determinantes na opinião sobre eutanásia em amostra de médicos portugueses. Rev Iberoam Bioética. 2019:1-19.
2. World Medical Association.WMA Medical Ethics Manual. 3rd ed. 2015. [cited 2021 Feb 18]. Available from: https://www.wma.net/wp-content/uploads/2016/11/Ethics_manual_3rd_Nov2015_en.pdf.
3. Ricou M, Wainwright T. The psychology of euthanasia: why there are no easy answers. Eur Psychol. 2019;24:243-56.
4. Marina S, Costa-Maia I, Ricou M. Definição do conceito de morte antecipada em Português. Acta Med Port. 2019;32:474.
5. Instituto Nacional de Estatística. Tábuas de mortalidade. 2019. [cited 2021 Jan 26]. Available from: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_boui=354419871&DESTAQUEStema=55466&DESTAQUESmodo=2.
6. Felix ZC, da Costa SF, Alves AM, de Andrade CG, Duarte MC, de Brito FM. Eutanásia, distanásia e ortotanásia: revisão integrativa da literatura. Cien Saude Colet. 2013;18:2733-46.
7. Marina S, Wainwright T, Ricou M. The role of psychologists in requests to hasten death: a literature and legislation review and an agenda for future research. Int J Psychol. 2021;56:64-74.
8. Vilches L. On eutanasia. Rev Psicol. 2001;X:117-87.
9. Congreso de los Diputados. Boletín Oficial de Las Cortes Generales. Proposición de Ley Orgánica de Regulación de La Eutanasia. 2021. [cited 2021 Mar 23]. Available from: http://www.comunidad-tdah.com/contenido/images/tdah_proposicion_pp.pdf.
10. Belgian Ministry of Justice. Belgian Law on Euthanasia. 2014. [cited 2020 Dec 22]. Available from: http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=fr&la=F&table_name=loi&cn=2014022803.
11. Regional Euthanasia Review Committees (RTE). Euthanasia Code 2018. [cited 2020 Dec 23]. Available from: https://www.euthanasiecommissie.nl/uitspraken/brochures/brochures/euthanasiecode/2018/euthanasia-code-2018.
12. Chambre des Députés L. Loi du 16 Mars 2009 sur l'euthanasie et l'assistance au suicide. Jahr Wiss Ethik. 2009:609-19.
13. Pereira J. Legalizing euthanasia or assisted suicide: the illusion of safeguards and controls. Curr Oncol. 2011;18:38-45.
14. Regional Euthanasia Review Committees. Regional Euthanasia Review Committees: Annual Report 2018. 2018. [cited 2020 Dec 23]. Available from: www.euthanasiecommissie.nl.
15. Minister of Health, Welfare and Sport and the Minister of Security and Justice of Netherlands. Letter of 12 October 2016 from the Minister of Health, Welfare and Sport and the Minister of Security and Justice to the House of Representatives on the government position on 'completed life. 2016. [cited 2020 Dec 22]. Available from: https://www.government.nl/documents/letters/2016/10/12/the-government-position-on-completed-life.
16. Verhagen E, Sauer PJ. The Groningen Protocol - Euthanasia in Severely Ill Newborns. N Engl J Med. 2005;352:959-62.
17. CNECV [Conselho Nacional de Ética para as Ciências da Vida]. Decreto N.º 109/XIV "Regula as Condições Em Que a Morte Medicamente Assistida Não é Punível e Altera o Código Penal."; 2021:1-19. [cited 2021 Feb 18]. Available from: https://app.parlamento.pt/webutils/docs/doc.pdf?path=6148523063446f764c324679626d56304c334e706447567a4c31684a566b786c5a79394562324e31625756756447397a51574e3061585a705a47466b5a564268636d786862575675644746794c325978597a466b4d7a42694c5467304d7a4d744e4459305a533169597a46684c5759784e4755354d4445774d445a695979356b62324e34&fich=f1c1d30b-8433-464e-bc1a-f14e901006bc.docx&Inline=true.
18. Mullet E, Neto F, Pinto C, Raich R, Munoz Sastre MT, Sorum P. The acceptability of ending a patient's life: a France–Portugal–Spain comparison. Death Stud. 2014;38:28-35.
19. Teisseyre N, Mullet E, Sorum PC. Under what conditions is euthanasia acceptable to lay people and health professionals? Soc Sci Med. 2005;60:357-68.
20. Guedj M, Gibert M, Maudet A, Muñoz Sastre MT, Mullet E, Sorum PC. The acceptability of ending a patient's life. J Med Ethics. 2005;31:311-7.
21. Dany L, Baumstarck K, Dudoit E, Duffaud F, Auquier P, Salas S. Determinants of favourable opinions about euthanasia in a sample of French physicians Psychosocial. BMC Palliat Care. 2015;14:1-7.
22. de Groot JW. The right to live and to die. J Clin Oncol. 2018;36:920-2.
23. Lee JE, Kim JH, Park CH, Gwak DW, Kim CH, Park D, et al. Are safe guards at trampoline parks safe enough? Medicine . 2019;98:e18137.
24. Kendrick LM, Hudgell D, Hellman A, Weaver MS. Attending to total pain in juvenile Huntington disease: a case report informed by narrative review of the literature. J Palliat Care. 2019;34:205-7.
25. Rodgers C, Field HL, Shakin Kunkel EJ. Countertransference issues in termination of life support in acute quadriplegia. Psychosomatics. 1995;36:305-9.
26. Regional Euthanasia Review Commitees. Dutch Regional Euthanasia Review Committees: 2015 Annual Report, Case 2015-59. 2015. [cited 2021 Mar 20]. Available from: https://english.euthanasiecommissie.nl/documents/publications/annual-reports/2002/annual-reports/annual-reports.
27. Regional Euthanasia Review Commitees. Dutch Regional Euthanasia Review Committees: 2016 Annual Report, Case 2016-44. 2016. [cited 2021 Mar 20]. Available from: https://english.euthanasiecommissie.nl/the-committees/documents/publications/annual-reports/2002/annual-reports/annual-reports.
28. Regional Euthanasia Review Commitees. Dutch Regional Euthanasia Review Committees: 2017 Annual Report, Case 2017-42. 2017. [cited 2021 Mar 21]. Available from: https://english.euthanasiecommissie.nl/documents/publications/annual-reports/2002/annual-reports/annual-reports.
29. Dyer C. Paralysed man will ask judges to let a doctor end his life. BMJ. 2013;346:2537.
30. Chen X, Ma X, Zou C. Phenotypic spectrum and genetic analysis in the fatal cases of Schaaf-Yang syndrome: two case reports and literature review. Medicine . 2020;99:e20574.
31. Terman S. To live long enough to warm the hearts of others: reflections on informing my patient about a peaceful way to die. Narrat Inq Bioeth. 2016;6:102-5.
32. Logue MD, Effken JA. Validating the personal health records adoption model using a modified e-Delphi. J Adv Nurs. 2013;69:685-96.
33. Streiner DL, Norman GR, Cairney J. Health measurement scales: a practical guide to their development and use. Cambridge: Oxford University Press; 2015.
34. Kline RB. Principles and practice of structural equation modeling. New York: Guilford Publications; 2015.
35. Singh S, Pai DR, Sinha NK, Kaur A, Kyaw Soe HH, Barua A. Qualities of an effective teacher: what do medical teachers think? BMC Med Educ. 2013;13:1.