

# Training to cope with death from the perspective of future physicians

Gabriel Ferraz Amoedo<sup>1</sup>, Juliana Bárbara Barreto Sousa<sup>1</sup>, Luiz Fernando Quintanilha<sup>1,2</sup>, Katia de Miranda Avena<sup>1</sup>

1. Faculdade Zarns Salvador, Salvador/BA, Brasil. 2. Universidade Salvador, Salvador/BA, Brasil.

## Abstract

Occasionally, death is considered a medical failure and the inability to cope with it can generate fear and frustration, interfering with clinical decisions. This study assessed how medical students perceived coping with death, analyzing their preparedness to tackle these situations and comparing their sociodemographic, religious and academic profiles. This cross-sectional, quantitative and qualitative study was conducted with 294 medical students from Bahia. Results showed that medical students consider death to be a natural process, but do not feel fully prepared to address end of life during clinical practice, possibly due to the scarcity of academic discussions and the insufficient theoretical and practical content during training. Men with previous training and who had personal and academic contact with death were associated with a greater perceived preparedness to cope with death, without interference from academic level and religion.

**Keywords:** Attitude to death. Death. Students, medical. Education, medical.

## Resumo

### Formação para enfrentar a morte na perspectiva de futuros médicos

Ocasionalmente, a morte é considerada falha ou insucesso da medicina e a inabilidade em enfrentá-la pode gerar medo e frustração, interferindo nas decisões clínicas. Este estudo avaliou a percepção de estudantes de medicina quanto ao enfrentamento da morte, analisando seu preparo para lidar com essas situações e comparando seus perfis sociodemográfico, religioso e acadêmico. Realizou-se estudo transversal, quantitativo e qualitativo, com 294 estudantes de medicina da Bahia. Demonstrou-se que o estudante de medicina considera a morte um processo natural, mas não se sente totalmente preparado para lidar com a terminalidade da vida durante a prática clínica, possivelmente em razão das escassas discussões acadêmicas e da oferta insuficiente de conteúdo teórico-prático durante a formação. Homens com formação prévia e que tiveram contato pessoal e acadêmico com a morte foram associados à maior percepção de preparo para lidar com a terminalidade da vida, sem interferência de ciclo acadêmico e religião.

**Palavras-chaves:** Atitude frente à morte. Morte. Estudantes de medicina. Educação médica.

## Resumen

### Formación para afrontar la muerte en la perspectiva de los futuros médicos

En ocasiones, se percibe la muerte como un fracaso de la medicina, y la incapacidad de afrontarla puede generar miedo y frustración, interfiriendo en las decisiones clínicas. Este estudio evaluó la percepción de los estudiantes de medicina sobre el enfrentamiento a la muerte, analizando su preparación para lidiar con esta situación y comparando sus perfiles sociodemográficos, religiosos y académicos. En este estudio transversal, cuantitativo y cualitativo participaron 294 estudiantes de medicina de Bahía (Brasil). Los estudiantes de medicina perciben la muerte como algo natural, pero no se sienten totalmente preparados para afrontar el final de la vida durante la práctica clínica, posiblemente debido a escasas discusiones académicas y a insuficientes contenidos en la formación teórico-práctica. Los hombres con formación previa y que tuvieron contacto personal y académico con la muerte tuvieron una mayor percepción de preparación para afrontar el final de la vida, sin interferencia académica y de la religión.

**Palabras clave:** Actitud frente a la muerte. Muerte. Estudiantes de medicina. Educación médica.

The authors declare no conflict of interest.

Approval CEP-Imes-CAAE 54937822.2.0000.5032

Death is a natural condition, inherent to human life, and it is surrounded by different symbolisms, meanings and values that change according to the cultural aspects of civilizations<sup>1,2</sup>. The physician is a thanatological being<sup>3</sup> (from the Greek *thánatos*, “death”, and *lúsis*, “dissolution”), that is, someone who is responsible for fighting and conquering death, and who technically determines the moment and circumstances of death<sup>4</sup>.

These professionals often consider themselves omnipotent and prioritize saving the patient at any cost in order to meet the expectations of preserving lives<sup>5</sup>. Thus, death comes to be understood as a failure of medicine, an incorrect or unsuccessful treatment rather than a physiological and natural process<sup>6</sup>.

The foundation of medical training promotes the incorporation of a rational and scientific ideal, and was implemented by the reformulation of the medical teaching model proposed by the Flexner report in 1910, as pointed out by Marta and collaborators<sup>7</sup>. Currently, this concept can be seen in curricula focused on cure, and few subjects address the comprehensive understanding of terminal patients and death itself<sup>8</sup>. In addition, during their education, medical students have few opportunities to discuss pain and experiences of death with practiced professionals, due to scant theoretical content in the curricula and lack of specialists in the topic<sup>9</sup>.

Despite the existence of subjects in the medical curriculum, such as medical psychology, thanatology and palliative care, death is still a poorly addressed topic<sup>10</sup>. In this context, the need to expand these discussions and reflections culminated in a review of the Brazilian National Curriculum Standards for medical undergraduate courses in 2022<sup>11</sup>. This review provided the obligation to train students in specific skills in palliative care, reinforcing their understanding of the biological, psychosocial and spiritual aspects that involve dying, death and grieving<sup>11</sup>.

Due to the complexity of the subject, dealing with this situation is a challenge in medical education, especially when students are not well-prepared<sup>2,12</sup>. Therefore, given the relevance of the theme, this study assessed the perception of medical students regarding their training to face death and dying, analyzing their self-perceived preparation to cope with situations

involving terminal illness and comparing their sociodemographic, religious and academic profiles.

## Method

This is a cross-sectional, descriptive and analytical study, with a quantitative and qualitative approach, carried out between April and August 2022. The target population was made up of medical students from higher education institutions in the state of Bahia, including those regularly enrolled and over the age of 18.

The exclusion criterion was the submission of incoherent or incomplete answers to the questionnaires. The sample was estimated at 241 students, with a target population of 11,633 students enrolled in 2020<sup>13</sup>, a reliability of 95% and a margin of error of 5%.

The following sociodemographic and academic variables were evaluated: age, gender, religion, marital status, color, academic cycle, previous undergraduate training and area of knowledge of previous training. Also analyzed were perception and preparation regarding the training process to face death and dying. Students were recruited by snowball sampling, a non-probability sampling technique in which study subjects invite other participants from among their acquaintances<sup>14</sup>.

A semi-structured virtual questionnaire was used, created with Google Forms and forwarded to participants through lists of medical students on messaging apps and social media, a strategy that made it possible to reach more respondents, expanding the sample and increasing the reliability of the results. The questionnaire comprised 19 objective questions and one optional subjective question, and was previously validated by students from the Education and Health Research Group (Gpeducs) to ensure comprehension and objectivity. Before starting to fill out the questionnaire, the participants virtually signed the informed consent form.

Microsoft Excel and SPSS v. 26.0 were used for data tabulation and analysis. The categorical variables were presented through the frequency distribution of the categories, represented in absolute numbers (n) and percentage (%), and the numerical variable was presented as mean and

standard deviation. To carry out the association tests, students were classified as prepared (by answering “I feel partially/totally prepared”) or unprepared (by answering “I feel partially/totally unprepared”), and the chi-square test was used, with *p* values below 0.05 being considered statistically significant.

Bardin’s content analysis<sup>15</sup> was used for the qualitative data, developed in three stages:

1. Preliminary analysis: dynamic reading of the material, screening and selection of what was collected, constitution of the body of research based on the principles of exhaustiveness, representativeness, homogeneity and relevance, formulation of hypotheses and preparation of the material;
2. Investigation of the material: coding of what was collected, establishment of registration and context units, such as words and themes, and categorization of data according to criteria, for example semantic); and
3. Final analysis: treatment, interpretation and inference according to the respondent, the message and the communication channel<sup>16</sup>.

A total of 137 answers were obtained in response to the optional question, “How do you cope with or hope to cope with death (whether or not you have already experienced this situation)?”,

used to collect qualitative data. In addition, a word cloud was produced with the Pro Word Cloud supplement of Microsoft Word 2020, with the aim of identifying the relevance or repetition of certain words in the responses. Lastly, this work is in line with resolutions 466/2012<sup>17</sup> and 510/2016<sup>18</sup> of the National Health Council (CNS), and was approved by the Research Ethics Committee of Instituto Mantenedor de Ensino Superior da Bahia.

## Results

Two hundred and ninety-four students took part in the survey, of whom 70.1% were women, 50.7% were white and 83% were single, with a 25.5±6.9 years mean age. Most participants reported having a religion (77.6%) and practicing it (39.5%), with Catholics being the most prevalent (44.9%). Most were in the basic cycle of the medical course (48.3%) and had no prior undergraduate training (78.2%), and among those with prior training, the majority had a diploma in the health area (17%) (Table 1).

When analyzing students’ perception of the meaning of death, most stated that it is “a natural process of life” (30.1%) and “the end of a cycle” (26.6%) (Table 2).

**Table 1.** Sociodemographic and academic characteristics of medical students participating in the study (n=294)

Characteristics	AM±SD	n (%)
<b>Age (Years)</b>	25.5±6.9	
<b>Gender</b>		
Woman		206 (70.1)
Man		88 (29.9)
<b>Skin color</b>		
White		149 (50.7)
Brown		115 (39.1)
Black		27 (9.2)
Yellow		3 (1.0)
<b>Marital status</b>		
Single		244 (83.0)
Married/Cohabitation		49 (16.7)
Divorced/Separated		1 (0.3)

continues...



**Table 1.** Continuation

Characteristics	AM±SD	n (%)
<b>Religion</b>		
Yes and practices		116 (39.5)
Yes but does not practice		112 (38.1)
No		59 (20.1)
Did not declare		7 (2.3)
<b>Declared religion*</b>		
Catholic		132 (57.9)
Evangelic		90 (39.5)
African-derived		6 (2.6)
<b>Academic cycle in medical school</b>		
Basic		142 (48.3)
Clinical		129 (43.9)
Internship		23 (7.8)
<b>Previous undergraduate training</b>		
Yes		64 (21.8)
No		230 (78.2)
<b>Field of previous training**</b>		
Health Sciences		51 (79.7)
Humanities		5 (7.8)
Biological Sciences		5 (7.8)
Engineering		1 (1.6)
Linguistics, Languages and Arts		2 (3.1)

AM±SD: arithmetic mean + standard deviation; n: absolute number; %: percentage; \* relative frequency calculated by considering a total of 228 students who declared having a religion; \*\* relative frequency calculated by considering a total of 64 students who declared having prior undergraduate training

**Table 2.** Perception of medical students regarding coping with death and dying (n=294)

Perception	n (%)
<b>What is death to you?*</b>	
Death is a natural process of life	214 (30.1)
Death is the end of a cycle	189 (26.6)
Death is loss	93 (13.1)
Death is a moment of transition	80 (11.3)
Death is a mystery	76 (10.7)
Death is the beginning of a new life	49 (6.9)
Death is a feeling of guilt and/or failure and/or impotence	10 (1.3)
<b>Have you ever had contact with death in your personal relationships?</b>	
Yes	259 (88.1)
No	35 (11.9)

continues...

**Table 2.** Continuation

Perception	n (%)
<b>Have you ever had contact with death during your practical experience in medical school?</b>	
Yes	64 (21.8)
No	230 (78.2)
<b>Do you feel prepared to cope with death in your clinical practice?</b>	
I feel totally unprepared	54 (18.4)
I feel partially unprepared	203 (69.0)
I feel totally prepared	37 (12.6)
<b>How often did you discuss death and dying during your undergraduate studies?</b>	
Never	52 (17.7)
Rarely	102 (34.7)
Occasionally	111 (37.8)
Often	24 (8.2)
Very often	5 (1.6)
<b>Does the medical course provide students with theoretical and practical content to cope with death and dying in their professional life?</b>	
I totally disagree	46 (15.6)
I partially disagree	69 (23.5)
I neither agree nor disagree	109 (37.1)
I partially agree	47 (16.0)
I totally agree	23 (7.8)

n: absolute number; %: percentage; \* relative frequency calculated by considering a total of 711 answers, as each student could select up to three alternatives

Regarding personal and academic experiences of contact with death, 88.1% of participants had previous contact in their personal relationships, but only 21.8% had any during their academic experience (Table 2). Among the study participants, 69% feel partially prepared to cope with death during their clinical practice.

When analyzing the frequency of academic discussions on this subject, 37.8% of students reported that they occasionally discussed it in the classroom and 39.1% considered that the medical course does not provide students with theoretical

and practical content to cope with death and dying in their professional life (23.5% partially disagreed and 15.6% totally disagreed) (Table 2).

When analyzing students' perceptions according to their sociodemographic, religious and academic profiles, it was observed that being male, having prior undergraduate training and having personal contact with death during the medical course increases the feeling of preparedness to cope with issues involving terminal illness, with this difference being statistically significant ( $p=0.001$ ,  $p=0.014$ ,  $p<0.0001$ ,  $p=0.014$ , respectively) (Table 3).

**Table 3.** Comparative analysis of medical students' perception according to sociodemographic, religious and academic profile (n=294)

Characteristics	Perceived preparedness to cope with death		p*
	Unprepared	Prepared	
<b>Gender</b>			0.001
Woman	48 (85.7)	158 (65.8)	
Man	6 (14.3)	82 (34.2)	

continues...

**Table 3.** Continuation

Characteristics	Perceived preparedness to cope with death		p*
	Unprepared	Prepared	
<b>Skin color</b>			0.110
White	29 (53.7)	120 (50.0)	
Brown	17 (31.5)	98 (40.8)	
Black	6 (11.1)	21 (8.8)	
Yellow	2 (3.7)	1 (0.4)	
<b>Marital status</b>			0.827
Single	44 (81.5)	200 (83.3)	
Married/Cohabitation	10 (18.5)	39 (16.3)	
Divorced/Separated	-	1 (0.4)	
<b>Religion</b>			0.054
Yes	42 (79.2)	182 (77.8)	
No	11 (20.8)	52 (22.2)	
<b>Declared religion*</b>			0.935
Catholic	23 (60.5)	109 (57.3)	
Evangelic	14 (36.8)	76 (40.0)	
African-derived	1 (2.7)	5 (2.7)	
<b>Academic cycle in medical school</b>			0.263
Basic	22 (40.8)	120 (50.0)	
Clinical	29 (53.8)	100 (41.7)	
Internship	3 (5.4)	20 (8.3)	
<b>Previous undergraduate training</b>			0.014
Yes	5 (9.3)	59 (24.6)	
No	49 (90.7)	181 (75.4)	
<b>Field of previous training**</b>			0.877
Health Sciences	4 (80.0)	47 (79.7)	
Humanities	1 (20.0)	4 (6.8)	
Biological Sciences	-	5 (8.5)	
Engineering	-	1 (1.7)	
Linguistics, languages and arts	-	2 (3.3)	
<b>Personal contact with death</b>			0.000
Yes	38 (70.4)	221 (92.0)	
No	16 (29.6)	19 (8.0)	
<b>Contact with death in medicine</b>			0.014
Yes	5 (2.7)	59 (54.6)	
No	181 (97.3)	49 (45.4)	

\* Chi-square test

The qualitative analysis showed that students view death as a natural process in the life cycle: “a natural process, which gives meaning to life while it exists”; “death is a process that we must

accept as part of life”; “a natural event that is part of the cycle/stages of life”. In addition, students report that they view death with sadness and impotence, among other negative feelings, a fact

highlighted by statements such as “I view death as a moment of great sadness and impotence”; “something painful, but it is a natural process”; “there will be suffering, sadness and pain, but I will accept it in my time”; “utterly mysterious and frightening.”

Some students view death as a spiritual process, albeit not necessarily religious. This is evidenced by statements such as: “death is seen as an end of the cycle among the living”; “the end of a cycle in this life, for a life in eternity in Heaven with God”; “the end of life on Earth and the beginning of

eternal life”. Moreover, in some responses it was possible to identify the humanization of the process and the use of patience, empathy and other positive feelings, as in comments like: “in the most humane and professional way possible”; “with the respect and patience required”; “knowing how to have empathy and care for patients’ families at this delicate hour”.

When analyzing the recurrence of words in the responses, terms such as “natural,” “cycle,” “life,” “process,” “naturalness,” “grieving,” “uncertainty” and “sadness” stand out.” (Figure 1).

**Figure 1.** Tag cloud of the feelings most strongly linked to death.



## Discussion

The concept of death is influenced by the environment, relationships, traditions, beliefs and rules, sociocultural context and current historical moment<sup>19</sup>. It should be stressed that death and the discussion about it are still considered a taboo<sup>20</sup>, especially as the end of another’s life makes us think about our own finitude<sup>21</sup>. However, in this investigation, it was shown that, for medical students, death is considered a natural process of life, corroborating previously published studies<sup>2,7,19,22</sup>.

The perception about coping with death and dying may be influenced by sociocultural and academic factors<sup>19</sup>, making it important to reflect on the profile of the sample. The students in the sample were predominantly women<sup>1-3</sup>, single<sup>1,4,19</sup> and white<sup>3</sup>, a pattern similar to that observed in Brazil<sup>23</sup>. From the point of view of academic

profile, most interviewees had no previous undergraduate degree and were in the basic cycle of their studies, a context in which some of these characteristics, when evaluated globally, were associated with perceived preparedness to cope with death and dying.

Regarding the religious profile, there was a high prevalence of students who reported having a religion, with Catholics being the majority<sup>1,2</sup>. However, it is known that Catholic hegemony in Brazil is at risk<sup>24,25</sup> and that there is currently an increase in the population that declares having no religion<sup>25</sup>. From this perspective, there was no association between having a religion and perceived preparedness to cope with terminal illness.

In the academic and professional sphere, the lack of an adequate approach to the subject during the training of future professionals may hinder its acceptance and, consequently, become a problem in the daily lives of healthcare

providers<sup>21</sup>. Therefore, it is essential to encourage discussions regarding death and dying in medical education in order to better prepare students, who will inevitably face the issue. This is evidenced by the fact that, in this study, only 12.6% of medical students considered themselves fully prepared to cope with issues involving death and dying during their clinical practice.

Although the medical curriculum includes subjects that address techniques for communicating bad news and subjective and affective aspects of palliative care<sup>11</sup>, it is very likely that the perception herein demonstrated is associated with lack of discussion in the classroom and insufficient academic content on the matter. Furthermore, the questions and fears surrounding the process of death and dying are not limited to health students, but are reflected in contemporary society as whole. Added to this is the complexity and desires involved in human existence, besides the possibility of “ceasing to exist,” which may also have influenced the students’ perception, even though the understanding that they are partially prepared is a relief, given that they are professionals in training.

In this context, from an academic point of view, the participants reported that classroom discussions about coping with death occurred only occasionally and that the theoretical and practical content offered was insufficient. These findings are in line with previous studies<sup>20,26-28</sup>, which demonstrated that teaching-learning experiences on this subject during undergraduate studies are scarce.

In general, in medical courses, the topic of death is basically addressed in humanistic subjects, which, according to the students, contributes little to reflection and the development of skills that help in managing this process<sup>19</sup>. In this sense, maybe the curricula of medical courses should be reviewed, introducing this issue more incisively, for example with teaching activities in simulated environments, which can be presented as effective strategies for developing and improving skills related to these cases<sup>29-31</sup>.

In addition, only theoretical and practical content to cope with death and dying professionally is not enough for the cognitive preparation required to face the end-of-life process<sup>12</sup>. Likewise, professional training dissociated from the everyday

life of healthcare services and patients may generate learning gaps<sup>12</sup>. There is a clear set of evidence supporting the understanding that contact with patients and clinical practice helps increase the sense of responsibility for caring for others<sup>12</sup>. For contributing to coping with issues associated with death and dying, this fact may justify the findings presented in this study, which show that students who claimed to have had contact with death during their medical course consider themselves better prepared to cope with the situation.

In an attempt to minimize these gaps, in some medical specialties, professionals frequently deal with terminal patients, which affords them closer contact with the dying process. The academic insertion of these professionals through curricular or extracurricular activities favors the discussion of topics related to their patients’ experiences of pain, suffering and death, contributing to greater learning for medical students regarding death and dying<sup>27, 32</sup>.

Although most students consider that “*death is part of life*,” “*it is a natural process*” that represents “*the end of a cycle*,” when analyzing the feelings related to the end-of-life process, in line with previous studies, conflicting feelings and negative emotions were observed, such as sadness, distress, longing, suffering, anxiety and pain<sup>16,19,20,26</sup>. This behavior may be associated with a defense mechanism, used to minimize the fear of death and the difficulty in coping with it<sup>19</sup>.

It is important to highlight that the discussion about death during undergraduate studies may influence physicians’ medical practice and psychosocial well-being<sup>26</sup>. Moreover, emotional vulnerability may also generate emotional and physical burnout, depersonalization and decreased capacity for personal fulfillment<sup>2,7</sup>.

In addition, poor training may negatively influence patient care, as physicians often self-isolate<sup>2,33</sup> in order to “defend” themselves from their death-related fears<sup>27</sup>. Consequently, there is a breakdown in communication between doctor and patient, evidenced by the refusal to talk about illness and death, pushing them apart and worsening their relationship at such a delicate time<sup>2,5,12,27</sup>.

Therefore, there is a need to reflect on the increasing insertion of humanization dynamics

in medical undergraduate studies to make the work of future professionals less exhausting and overburdened when it comes to coping with terminal patients. The experiences of students and teachers could be better used in the teaching-learning process about death and dying<sup>19</sup>. This could favor the development of a better doctor-patient relationship, providing greater comfort to patients and families and demonstrating more empathy.

It should be noted that this study has limitations related to generalization, due to the use of self-reported data by participants. Additionally, it is a complex subject, as this reflection is influenced by multiple variables of a personal, social, cultural, clinical, political and religious nature. However, these facts do not compromise the critical analysis of the outcomes presented nor the relevance of the conclusions, as they are inherent to the method proposed and the subject addressed.

To the best of our knowledge, no other study has analyzed this subject in a quantitative and analytical

approach among medical students. Therefore, this investigation provides valuable data for further reflection on coping with death, supporting the development of educational strategies that contribute to training physicians who are better prepared to cope with issues involving death.

## Final considerations

Most medical students consider death to be a natural process, but do not feel prepared to cope with terminal patients in clinical practice, possibly due to the complexity of the subject, associated with the low occurrence of discussions in the classroom and insufficient provision of theoretical and practical content during training. Men with previous undergraduate training and who have had personal and academic contact with death consider themselves better prepared to cope with the end of life process.

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Gabriel Ferraz Amoedo – Undergraduate student – [gabrieferrazamoedo@hotmail.com](mailto:gabrieferrazamoedo@hotmail.com)

 0000-0002-6834-6361

Juliana Bárbara Barreto Sousa – Undergraduate student – [juliana.bsbarreto@gmail.com](mailto:juliana.bsbarreto@gmail.com)

 0000-0002-3554-0598

Luiz Fernando Quintanilha – PhD – [luiz.mesquita@faculdadezarns.com.br](mailto:luiz.mesquita@faculdadezarns.com.br)

 0000-0001-8911-9806

Katia de Miranda Avena – PhD – [katiaavena@hotmail.com](mailto:katiaavena@hotmail.com)

 0000-0002-2179-3893

#### Correspondence

Katia de Miranda Avena – Av. Luís Viana, 3230, Imbuí CEP 41720-200. Salvador/BA, Brasil.

#### Participation of the authors

Gabriel Ferraz Amoedo contributed to the research project design, data collection, discussion of results, and writing and final approval of the text. Juliana Bárbara Barreto Sousa contributed to the research project design, data acquisition, discussion of results, and writing and final approval of the text. Luiz Fernando Quintanilha contributed to the discussion of the results, and writing and final approval of the text. Katia de Miranda Avena, as advisor of the research project, contributed to the design, analysis and interpretation of data, discussion of results, critical review of its intellectual content and review and approval of the text.

Received: 3.18.2023

Revised: 10.30.2023

Approved: 11.31.2023