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Assessment of a medical student mentoring programme to improve attitudes related to grief and coping with death

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ABSTRACT

Objectives: To evaluate the impact of a mentoring programme for medical students doing a palliative care rotation, aimed at improving coping with death and attitudes towards the suffering produced by illness.
Methods: A quasi-experimental study without a control group was carried out on second-year medical students. Five 1-h group sessions were conducted. Attitudes towards grief and coping with death were assessed before the mentoring programme began and afterwards, using the Brief Humanizar Scale and the Bugen's Coping with Death Scale, respectively.
Results: In terms of the sense of grieving as measured by the Brief Humanizar Scale, the mean score for the 'Burden' factor was 7 points and for the 'Change' factor it was 28.6, indicating that suffering makes more sense as a lever for positive change than as a burden. Regarding Bugen's Coping with Death Scale, the mean score was 127.8 points before the mentoring programme and 139.2 afterwards. Hence, the score after the mentoring programme increased by 11.4 points, improving strategies to cope with death.
Conclusion: Medical professionals must cope with death and end-of-life patients. In addition to scientific knowledge, students need to acquire competencies for better coping with the death of patients, with mentoring programmes helping to enhance this process of learning.

1. Introduction

Medical curricula should focus on the acquisition of the knowledge, skills, attitudes, and values required to perform professional medical tasks competently and safely [1]. In this regard, medical humanities provide and contribute to achieving a holistic medical

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practice where physicians understand people and acquire their competence [2]. Consequently, sciences and humanities are embedded within clinical medical judgement in such a way that physicians can interpret objective clinical data considering the patient's psychosocial context.

Mentoring in medicine provides important support for the personal and professional development of students [3], has positive effects on specialty choice, and correlates with productivity in research, the number of publications, and grants for junior academic physicians [4]. There are various mentoring models, the most common being the pairing of a mentee with a senior mentor. Outcome measures commonly used are satisfaction with mentoring and with the mentor, conducted through surveys [5].

The concept of mentoring has been widely discussed, as a standardised definition is lacking. However, there are several characteristics agreed upon, including the personal nature of the relationship, durability over time, and capacity to foster students' skills and knowledge, as well as their integral development [6].

The prevalence of the mentoring programmes for medical students that are currently being applied in universities is not known, but the number of programmes has increased in recent years [7]. In this regard, several mentoring models are available, the most common being pairing a mentee with a senior mentor [5]. Being the satisfaction with both mentor and mentorship the outcome subject to assessment through surveys, the evaluation of mentorships has some limitations such as the display of descriptive and subjective results without standardised assessment measures [5].

In another vein, in the development of a clinical activity, medical professionals must deal with complex situations related to death and the dying process [8], which causes anxiety in students and negative attitudes towards palliative care training [9]. Therefore, the undergraduate training period is considered the appropriate time to address these issues [10].

Several studies report that the death of a patient can cause negative emotions in medical students, such as fear, guilt, sadness, or anger [11,12]. One of the strategies described in the literature for coping with these situations is the debriefing of cases with doctors and mentors, which helps improve the students' reflective capacity [13]. Furthermore, there are other strategies including the use of religion, staying busy with other responsibilities, normalisation, and talking to peers or colleagues for guidance and practical advice [14].

In any case, it is important to have assessment tools that provide insight into attitudes towards death and grief. The first psychometric instrument designed to measure competence in coping with death was the Bugen's Coping with Death Scale. It was developed in 1980 by Bugen in the context of palliative care [15] and shows sufficient validity evidence to measure the target constructs in university students as well as in volunteers in palliative care hospitals [16].

With regards to the process of death and dying, grieving is seen as a negative, fearful response to the unknown. Human beings need to make sense of grieving as an opportunity for change, which is enhanced by spiritual practices and religious beliefs [17]. Thus, by becoming aware of fragility, professionals develop a greater empathic ability. In this sense, the Bermejo et al. [18] scale assesses the meaning given to grieving according to five factors: Transcendence, Punishment, Catalyst of change, Masochism, and Inherent to life. An abbreviated version of this scale has been adapted to Spanish by Villacieros et al. [17], including two dimensions of suffering, 'Change' and 'Burden', which shows enough validity to measure the target constructs.

Some studies have analysed attitudes towards death in medical students, but research on this subject in Spain is limited. Therefore, the main objective of this study was to evaluate the impact of a mentoring programme on medical students doing a palliative care rotation, aimed at improving coping with death and attitudes towards the grieving produced by illness.

2. Materials and methods

A quasi-experimental study without a control group was carried out with second-year medical university students.

2.1. Participants

Second-year medical students enrolled for the first time in the Medical Humanities II university course and who gave their consent to participate in the study were invited to participate.

Students who did not attend the total number of scheduled mentorships were excluded.

2.2. Intervention

Second-year students at this University receive training in medical ethics, linked to the Medical Humanities subject. The intervention consisted of a mentoring programme focused on improving attitudes towards grief and coping with death, in the context of a palliative care rotation.

Five 1-hour group sessions were conducted. The sessions were structured as follows.

Session 1: Presentation of the experience and concept of grief.

Objectives:

- To generate a learning community for group reflection in a pleasant and safe space.
- To awaken to the reality of suffering. To ask questions and seek answers together. To make decisions for action.

After an introductory ice-breaker and upon establishing an agreement of confidentiality, the trainees are invited to choose a photo (from a predesigned image bank) that reflects their experience of suffering in the palliative rotation or their own individual experience, so that it is easier to share their own reflections with their peers. The mentor, in the meantime, asks questions to the students, so that they can deepen their reflections. The aim is for them to make valuable decisions that they can implement in their lives.

Session 2: Exploration of attitudes towards grieving and the paradox of grieving.

Objectives:

- To continue generating a learning community space for group reflection in a pleasant and safe context.
- To discover (reflect on) attitudes towards suffering and the 'paradox of suffering': suffering is both a hard experience and an opportunity.

The mentor presents the different attitudes about suffering and, in turn, the different experiences of suffering in the performance of their palliative care experiences are narrated. Mentees are encouraged to identify their attitudes towards their experience of suffering. Different statements about suffering are also used and the students position themselves on a scale of 1–10 and discuss this level with their classmates. Areas of work are detected and students are encouraged to make decisions and commit to work on them for the following session.

Session 3: Identifying, interpreting, and managing emotions during a situation of grieving.

Objectives:

- To deepen the community work done in previous mentoring sessions.
- To reflect on their own experience of suffering, focusing on emotions (identification, interpretation, and possibilities of self-control).

Once again, emotionally charged experiences are shared. The mentor helps in identifying the emotions and possible cognitive errors behind them for their proposed management and self-mastery.

Session 4: Dealing with one's own death and that of patients.

Objectives:

- To face the reality of death so that the student can accompany people who have to face an imminent death.

In this mentorship, students are invited to reflect on their own death by doing an imaginary exercise on how they would like to die. Through this exercise, a reflection is made that, based on empathy, allows them to understand what the dying person needs from their environment. We work focusing on the ability to accompany through pure presence. We also work on this ability by analysing some film clips that deal with the subject.

Session 5: Reflection on what has been learned and its future application.

Objectives:

- To make a report of the course and the learning journey they have been on.
- To reach valuable conclusions about how to face their own suffering and the possibility of death in a very specific context: the demands of academic life.

The course concludes by recalling the mentoring process that has taken place during the course, and conclusions are shared. The mentor invites the students to reflect on the demands of academic life, sometimes understood as suffering, in terms of paradox (hard experience and opportunity). This session also involves taking a further step in the process of vocational insight.

A total of 132 students were included, distributed in 17 groups. Sixteen mentors participated.

A methodology based on the student's own experience of suffering and dealing with the idea of their own death was followed, using critical incidents arising from medical rotations or other personal experiences. Active experiential learning was encouraged, based on action, reflection on actions, and the acquisition of resolutions and/or commitments for future action [19].

The mentorships were scheduled from October 2021 to April 2022.

2.3. Data collection

The students were informed about the characteristics of the study and gave their consent before the beginning of the mentoring programme.

Attitudes towards grief and coping with death were assessed before the mentoring programme began and afterwards, using the

Brief Humanizar Scale [17,18] and the Bugen's Coping with Death Scale [15,16], respectively. The assessment of both the mentoring and the mentor performance was done at the end of the mentoring programme with the MME scale, also known as the Mentor and Mentoring Evaluation scale. This scale is, in turn, an adaptation: 1) of the Mentorship Effectiveness Scale scale (A) [20] which reflects the assessment of the mentor and the relationship with the mentee; 2) of the CEDA scale (B) [21], which reflects the assessment of mentoring in general.

Bugen's Coping with Death Scale was developed in the field of palliative care to measure human skills and capacities in coping with death. It measures three dimensions: a) negative thoughts and feelings about death; b) difficulty coping with thoughts about death, so that behaviour can be affected; c) the view of death as the door to a better life. It was first validated in undergraduate and postgraduate students [16] and obtained a Cronbach's alpha of 0.89. It has also been used in medical students [22]. The scale has sufficient validity evidence to measure the target constructs [23], reporting a Cronbach's alpha of 0.82. For this, it is considered a reliable instrument. It contains 30 items measured with a Likert scale from 1 to 7, where 1 means strongly disagree and 7 strongly agree, leaving 4 as neutral. The overall score is obtained by adding up all the scores after inverting the value of items 13 and 24. The maximum score is 210 and the minimum is 30. Higher scores suggest better strategies for coping with death [24]. Two cut-off points were established: above the 66th percentile is considered good coping and below the 33rd percentile, bad coping [23].

The Brief Humanizar Scale [17] measures the meaning of grieving, based on the Humanizar Scale by Bermejo et al. [18]. It consists of 14 items: 8 items reflect the meaning of grief as a 'Change' or a positive change force, and 6 items consider it as a 'Burden', sacrifice, or effort. The sense of suffering as 'Change' refers to the usefulness that can be given to suffering as a lever or engine towards positive change. It can be seen as an experience of transcendence or as the necessary energy that mobilises a personal search and that leads to inner growth or a new life. The dimension of suffering seen as a 'Burden' reflects the sense of bearing or assuming the burden that this suffering entails. It is about understanding the burden as a sacrifice or effort.

The correlation coefficient for the 'Change' factor was 0.75 and for the 'Burden' factor it was 0.749. The items are rated on a Likert scale where 1 is 'totally disagree' and 5 'totally agree'.

The MME scale consisted of 10 items assessing the role of the mentor and 14 items assessing the mentoring sessions. Responses are based on a Likert scale with a score from 1 'Strongly disagree' to 6 'Strongly agree' [25]. The MME scale includes questions about the perception that students have of the mentor, in terms of explanations on the subject, motivation, or respect for the student's opinions. It evaluates the perception of mentoring in terms of its usefulness to be applied in real situations and for personal development.

2.4. Data analysis

Data analysis was carried out using the SPSS V21.0.0 statistical package. Proportions, means, and standard deviations were used to describe the sample. Student's t-test for paired samples and McNemar's test were used to assess the relationship between mentoring and coping with death. The 95% confidence interval (CI) was calculated.

2.5. Ethical aspects

The study protocol was approved by the Research Ethics Committee of the Francisco de Vitoria University (CEI 32/2019).

3. Results

The sample consisted of 132 medical students, with a mean age of 20.7 years (SD: 0.9) and 82.1 % of females. A total of 660 scheduled mentoring meetings were conducted. Attendance rate was 91.6 % of the expected.

In terms of the sense of grieving as measured by the Brief Humanizar scale, the mean score for the 'Burden' factor was 7 points (SD: 4.6) and for the 'Change' factor it was 28.6 (SD: 5.9). Items with a mean score equal to or higher than 3 (slightly agree, agree, or strongly agree) are described in Table 1.

The Bugen's Coping with Death Scale mean was 126.22 (SD: 22) before the mentoring interventions. Table 2 describes the items scoring above 4 ('Agree', or 'Strongly agree').

Scores on the Bugen's Coping with Death Scale and the Brief Humanizar Scale were obtained from 56 students before and after the mentoring programme.

Regarding the Brief Humanizar Scale, the mean of the 'Change' factor after the intervention (30.7) was higher than before (29.4),

Table 1
Items of the Brief Humanizar Scale with ≥3 score.

Humanizar Scale (brief)	*n*	Mean	SD
Grieving can be transcendental; it can lead to a new life	132	4.00	1.13
Human beings can give meaning to grieving		4.17	0.82
Grieving is necessary in order to learn		3.48	1.32
Grieving is an obstacle to overcome in order to achieve inner peace		3.28	1.32
The experience of grief is a way of changing the way one approaches life		4.05	0.97
Change factor		28.64	5.87
Burden factor		7.02	4.59
Valid *n*		7.02	4.59

but without establishing significant differences (t = 1.6; p = 0.1). The 'Burden' factor was reduced after the intervention from a mean of 7.5 to 6.6 (t = −1.1; p = 0.2).

Regarding Bugen's Coping with Death Scale, the mean score was 127.8 points (SD: 19.7) before the mentoring programme and 139.2 (SD: 23.2) afterwards. The score after the mentoring programme increased by 11.4 points (95%CI: 4.9–17.9) p = 0.001 (Insert Fig. 1).

Significant differences were found in eleven items from the Bugen's Coping with Death Scale after the intervention and there was an increase in scoring in ten items (Table 3).

Before the mentoring programme, 35.7 % of the students reported good coping with death and 32.1 % bad coping. After the intervention, the percentage of students with good coping increased (44.6 %) and that of bad coping decreased (17.9 %), but the differences were not significant (McNemar = 3.9 p = 0.27).

After the mentoring programme, the proportion of women who coped well with death was higher (45.7 %) than that of men (40 %), although no statistical significance was found ($\chi 2 = 0.98$ p = 0.6) (Insert Fig. 2).

Since the factorial structure of both tests shows multidimensionality, both Cronbach's Alpha reliability index (α) and the Omega index (ω) have been reported. Both reliability indices report a similar and moderately satisfactory internal consistency in the scales and subscales at both time points. The post Cronbach's Alpha is 0.77 for the Brief Humanizar Scale and 0.89 for the Bugen's Coping with Death Scale (Table 4).

After the end of the mentoring programme, an assessment was made with the MME scale. Sixty-two students responded. Out of a maximum of six points, the mean of the mentor evaluation was 5.8 (SD: 0.4) and of the mentoring meetings, it was 5.6 (SD: 0.7).

4. Discussion

The present study shows how a structured mentoring programme for second-year medical students was associated with improvements in coping with death, which has been related to the social, educational, and religious context in health sciences students [26].

In contrast to Schmidt [23], who analysed coping with death in a sample of Cuban and Spanish university students, this study obtained a higher mean on the Bugen's Coping with Death Scale. Furthermore, there was an increase in the proportion of students with good coping with death (44.6 %) after the mentoring programme, yet still lower than the percentages reported in nursing students (73.4 %) [26]. This could be explained by the fact that medical students, unlike nursing peers, feel less prepared to discuss the non-medical aspects of death [27]. Overall, scores increased in all items related to knowledge and attitudes towards death (Table 3).

The proportion of women who reported coping well with death was higher than that of men after the intervention, although the differences were not statistically significant. This contrasts with other studies conducted in the nursing setting [28,29], where scores in coping with death was higher in men. In Schmidt's study [23], carried out on university students, the males had a higher mean on the Bugen's Coping with Death Scale than females, although they do not find statistically significant differences either. So far, it has been argued that men are more rational, decisive, and resilient when working in difficult situations such as caring for the dying [29], and they tend to repress thoughts related to death. Based on the findings of our study, it should be stated that these sex differences in coping with death are disappearing among students and future health professionals. In any case, research on this issue from a sex perspective is urgently needed.

Regarding the percentage of students who felt grieving as an opportunity for 'Change' rather than as a 'Burden' or sacrifice increased after the intervention, although the differences were not significant. Both aspects may be related to a process of personal transformation, which could be influenced by religious or meditation practices [17].

Table 2
Bugen's scale items with ≥4 score.

Bugen Scale	Mean	SD
I have a good perspective on death and dying	4.0	1.6
Death is an area that can be dealt with safely	4.3	1.8
I understand my death-related fears	5.1	1.6
Lately I find it OK to think about death	4.1	1.5
My attitude about living has recently changed	4.7	1.8
I can express my fears about dying	5.2	1.5
I can put words to my gut-level feelings about death and dying	4.4	1.6
I am making the best of my present life	5.9	1.3
The quality of my life matters more than the length of it	5.9	1.2
I can talk about my death with family and friends	5.3	1.8
I know who to contact when death occurs	4.6	2.1
I will be able to cope with future losses	4.0	1.7
I know how to listen to others, including the terminally ill	5.4	1.4
I am able to spend time with the dying if I need to	4.8	1.5
I can help someone with their thoughts and feelings about death and dying	4.5	1.4
I would be able to talk to a friend or family member about their death	4.9	1.7
I can lessen the anxiety of those around me when the topic is death and dying	4.3	1.5
I can communicate with the dying	4.6	1.4
I can tell someone, before I or they die, how much I love them	6.1	1.4

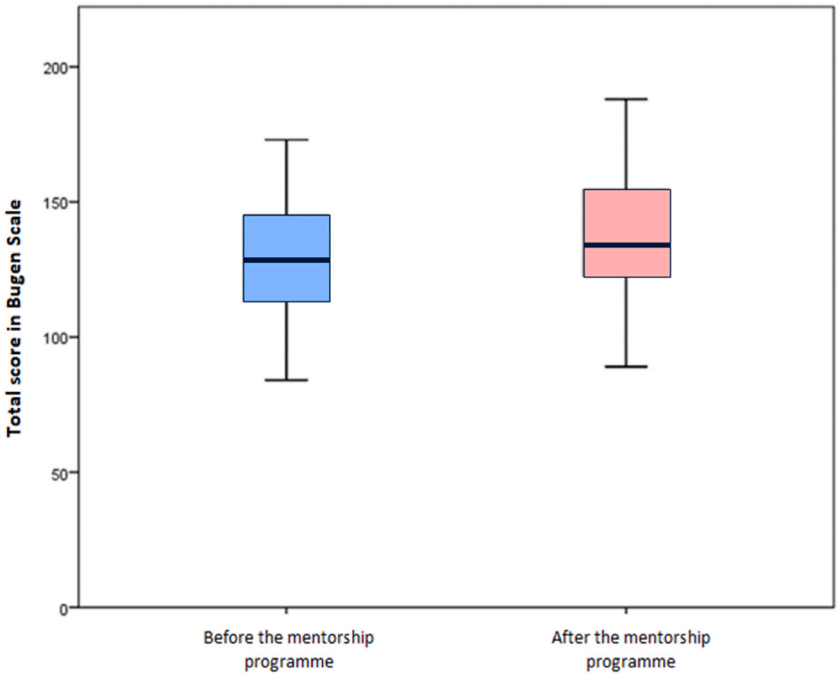

Fig. 1. Differences in Bugen's total scale score after mentoring.

Table 3
Bugen's scale items showing significant differences after the intervention.

Bugen scale	Mentorship programme	Mean	SD	Sig.
I have a good perspective on death and dying	Pre	4.1	1.6	0.010
	Post	4.7	1.4	
I am aware of the variety of options for disposing of bodies	Pre	2.8	1.6	0.014
	Post	3.6	1.9	
I am aware of the full array of emotions which characterize human grief	Pre	4.1	1.5	0.001
	Post	5.0	1.5	
Knowing that I will surely die does not in any way affect the conduct of my life	Pre	3.9	2.2	0.018
	Post	3.2	2.0	
I understand my death-related fears	Pre	5.1	1.5	0.003
	Post	5.8	1.3	
My attitude about living has recently changed	Pre	4.7	1.8	0.002
	Post	5.5	1.0	
I can express my fears about dying	Pre	5.3	1.3	0.05
	Post	5.7	1.5	
I can put words to my gut-level feelings about death and dying	Pre	4.2	1.6	0.001
	Post	5.2	1.5	
I may say the wrong thing when I am with someone mourning	Pre	2.1	0.8	0.001
	Post	5.2	1.7	
I can help someone with their thoughts and feelings about death and dying	Pre	4.3	1.5	0.003
	Post	5.1	1.5	
I can lessen the anxiety of those around me when the topic is death and dying	Pre	4.3	1.5	0.060
	Post	4.8	1.5	

When facing end-of-life care, it is reported that medical students have little confidence in themselves, with up to 80 % of them feeling insecure in accompanying dying patients [30]. This fact could be attributed to poor training in palliative care and insufficient practice with people at the end of life [31]. Moreover, according to research on nursing students, training in end-of-life support is not sufficient, as multidimensional and holistic training that integrates the spirituality and beliefs of individuals is also necessary [26]. Consequently, developing educational programmes that promote learning in palliative care is a key need [32]. Among the different possible approaches, programmes based on shared knowledge by mentors and peers and those based on experiential learning are excellent choices to succeed in meeting such training needs.

Mentoring is key to the personal and professional development of medical students, but often also benefits the mentors, who are professionally stimulated [33]. Typically, mentorships pair a student with a mentor [5], but in recent years this approach has shifted towards group mentorships that provide holistic and longitudinal support [34]. In this study, the group mentoring model has been

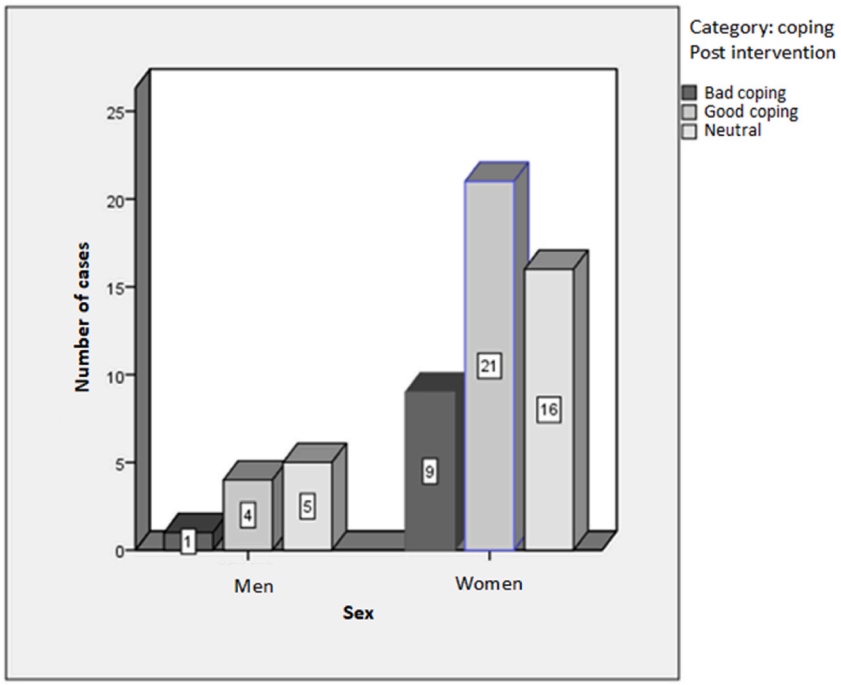

Fig. 2. Distribution of coping with death by sex.

Table 4
Reliability indices for the Brief Humanizar Scale and Bugen's Coping with Death Scale.

Scales and Subscales	Mentorship programme	Cronbach's alpha (α)	Total Omega (ω)
Brief Humanizar Scale	Pre	0.71	0.75
	Post	0.77	0.81
Brief Humanizar Subscale: Change	Pre	0.64	0.69
	Post	0.71	0.74
Brief Humanizar Subscale: Burden	Pre	0.73	0.78
	Post	0.8	0.84
Bugen Scale	Pre	0.87	0.89
	Post	0.89	0.91

followed, as it also has the advantage of fostering relationships between group members and avoiding abuse of power by mentors in a hierarchical relationship [33].

Regarding the tools for assessing mentoring performance, there is a wide variety of them, yet a holistic approach is lacking [35]. In this study, an evaluation was made from the students' perspective, using the MME scale. Both participation and satisfaction with the mentoring programme were very high, which partly reflected the students' interest in the issue of coping with death and end-of-life care. Therefore, learning how to provide this type of care and to communicate with these patients so as to implement quality palliative care becomes more relevant in the training of medical students as they approach the experience of caring [36,37].

One of the limitations of this study is the use of convenience sampling. Since the sample was collected from attendees of a palliative care mentoring programme, it would be desirable to extend the sample to other student groups. In addition, only 42 % of the students responded after the intervention.

This study should serve for further research in which comparisons are made with students who have not received structured training, such as that carried out in these mentorships on coping with death.

Another limitation of this study is that only Kirkpatrick level 2 evidence has been collected. An important next step will be to engage students in simulations to collect evidence of behaviour change based on this intervention.

In addition to scientific knowledge, medical students need to acquire competencies for better coping with the death and end-of-life patients. In this sense, this investigation allows to demonstrate that a structured mentoring programme for medical students was associated with improvements in this process of learning. In any case, it is convenient to explore in future studies how the meaning of grieving and the levels of coping with death are subject to the students' own interpretations, and how the mentoring experience is able to modulate this practice.

Ethics statement

The study protocol was approved by the Research Ethics Committee of the Francisco de Vitoria University (CEI 32/2019).

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Data availability

Data available on request from the authors.

CRediT authorship contribution statement

Santiago Álvarez-Montero: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Paula Crespí:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. **Juan Gómez-Salgado:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **María Valle Ramírez-Durán:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **María del Pilar Rodríguez-Gabriel:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Valle Coronado-Vázquez:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.heliyon.2023.e20959.

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