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Fear of death and its relationship to resilience in nursing students: A longitudinal study

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ABSTRACT

Aim: Taking a corpus of nursing students enrolled in the 2017−2021 nursing degree, we aim to analyse how students' levels of resilience and fear of death evolve in the first three years of the degree and whether there are differences between students based on age and gender. In addition, we aim to describe the relationship between resilience and fear of death.
Background: Throughout their training, nursing students will encounter situations of grief and death that may generate reactions of rejection, anxiety and emotional imbalance. Recognising and controlling these emotions through specialised training in end-of-life care and fostering resilience is essential.
Design: Comparative, correlational and longitudinal study.
Methods: Our corpus comprised 100 nursing students who were followed through the first three years of their training. Data were collected using a sociodemographic questionnaire, the Collet-Lester Fear of Death Scale and the Resilience Scale.
Results: The corpus reported medium-high levels of fear of death overall. Patterns were similar for all academic years: fear of other people's death was invariably the highest scoring subscale; and while individual dimensions of the Collet-Lester scale correlated directly and significantly with each other they were found to be inversely related to student age. High levels of resilience were recorded and were highest in the final year.
Conclusions: In this sample of student nurses, fear of death and resilience do not appear to be related to each other. Nursing education must include training specifically targeted at increasing levels of resilience and decreasing fear of death to improve end-of-life care.

1. Introduction

Death is a natural, universal and inseparable fact of the human condition, dying is the inevitable consequence of life (Bermejo et al., 2018; Edo-Gual et al., 2011). Talking about life, implies talking about death (Mondragón-Sánchez, 2015), however, living and thinking about

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it still provokes significant reactions of fear and anxiety and nurses and nursing students also experience these emotions (Fernández-Martínez et al., 2019; Xu et al., 2019).

Currently, most deaths recorded in Spain occur in hospitals (Lima-Rodríguez et al., 2018). This means that appropriate management of the dying process is crucial for health professionals and institutions (Edo-Gual et al., 2015). The nurse acquires a very important role in this process, as care is a great tool for improving the quality of the dying process (Espinoza and Sanhueza, 2012).

Death, suffering and pain of others provoke a wide range of emotions in all people, but more prevalently in healthcare workers; the most frequent emotional responses are fear and anxiety (Bermejo et al., 2018). Awareness of the processes of dying and coping with death are important for nurses, particularly for palliative care nurses, since accompanying the dying and coping with death are part of their daily work (Edo-Gual et al., 2015). The emotional management skills of healthcare professionals have a direct impact both on the quality of end-of-life care they can provide (Gama et al., 2014) and also on their own well-being (Harrington et al., 2019).

Thus, adequate professional education and training in these areas is necessary from undergraduate level (López-Alonso et al., 2018; Martí--García et al., 2020). Detailed research into student nurses' attitudes to death (Bermejo et al., 2018) and approaches to preparing these students to cope with death and dying (Poultney et al., 2014), stress how the opportunities to discuss emotional responses to death and dying need to be provided early in training to promote nurses' perceptions of personal well-being and enhance their ability to provide better end of life care.

Several studies show that death and the dying process are one of the experiences considered most stressful by nursing students during clinical practice (Kim, 2019; Poultney et al., 2014). Other work has reported how nurses feel significant levels of fear, anguish, anxiety and sadness at the thought of death and that they had found post-mortem care a particularly shocking experience (Henoch et al., 2017; Martí-García et al., 2020). Chover-Sierra and Martínez-Sabater (2020) found that Spanish nursing students' knowledge of palliative care was medium-low, despite the fact that this subject is included as part of standard nursing training in Spain (Ministerio de Ciencia e Innovación, 2008). Other research describes how students themselves report insufficient training in palliative care, as well as difficulty in coping, communication and decision-making in the care of the dying patient (Edo-Gual et al., 2015; Henoch et al., 2017). The lack of preparedness among student nurses for end-of-life care is cause for concern. Indeed, the Spanish Association for Palliative Care has identified the care of patients and their relatives during the processes of death and bereavement as a particular professional challenge. Facing this challenge adequately begins with training at undergraduate level to ensure that students are provided with the knowledge, skills and abilities to cope the death (Benito et al., 2016). Furthermore, to guarantee progress in this area it is necessary to introduce some form of monitoring procedure using, for instance, case reflection and the discussion of role models, to track the development of specific skills (Gorchs-Font et al., 2021).

Resilience is a term commonly used to describe the ability to turn adversity into opportunities and to learn from demanding situations (Delgado et al., 2017). Edo-Gual et al.'s (2015) study of Spanish student nurses showed that resilience was one of the key emotional competences for managing anxiety around death and dying. Therefore, training to promote the development of resilience would constitute a way to improve the quality of care (Arrogante et al., 2015). Currently there are no educational programmes aimed at fostering resilience among nurses (Arrogante, 2015; Leppin et al., 2014), however, pioneering work is being done comparing the efficacy of online and face-to-face resilience training for university students (Palma-Gómez et al., 2020).

In a sample of second year nursing students Ríos-Risquez et al. (2018) show that as students develop resilience their psychological health also increased. Other studies with nurses confirm the idea that not only does resilience enhance well-being (McGowan and Murray, 2016) but it also improves care practice (Amsrud et al., 2019; Thomas and Asselin, 2018; Walsh et al., 2020). Thus, there is a need to identify support strategies to build resilience among nursing students to strengthen their professional practice, promoting successful completion of their studies (Chow et al., 2018; Van Hoek et al., 2019) and transition into the labour market (Meyer and Shatto, 2018).

Given the great emotional impact of death on nursing students (Edo-Gual et al., 2015), high levels of resilience enable them to cope better with this adversity (Kim, 2019). Resilience contributes to prepare nursing students for caregiving, it is a fundamental attribute in the development of nursing curricula (Amsrud et al., 2019; Thomas and Asselin, 2018; Walsh et al., 2020). In addition, nursing students who received death education had higher levels of resilience (Kim, 2019).

To our knowledge there are, at present, no standardized programs included in undergraduate nursing degrees aimed at increasing resilience or providing skills to cope with caring for patients at the end of life. In addition, while there are studies concerning resilience and its role in promoting the wellbeing of healthcare professionals (Eaves and Payne, 2019; Ríos -Risquez et al., 2018) there is little data on how it may protect against the particular stresses and anxieties that accompany end-of-life care. Furthermore, only one of these studies is longitudinal (Ríos -Risquez et al., 2018), thus there is little data on how resilience develops throughout nursing training. To address these gaps in the literature our study will take a corpus of nursing students enrolled on the 2017–2021 nursing degree to analyse how students' levels of both resilience and fear of death evolve in the first three years of the course and whether there are any differences between students dependent on age and gender. Further, we propose to study the relationship between resilience and the fear of death.

2. Methods

2.1. Research design

Comparative, correlational and longitudinal study.

2.2. Setting and sample

The study population was 150 nursing students enrolled during the 2017–2021 academic years in the nursing degree. A sample of 100 students was obtained with 19.72 ± 4.84 years (minimum 17, maximum 47 years), 90% were women and 10% men. 87% of the students only studied, 5% worked sporadically during the academic year, another 5% worked during holiday periods over the academic year and the remaining 3% worked continuously.

2.3. Measuring instruments

Questionnaire of socio-demographic variables, which included: gender, age. and employment.

The Spanish version of the Collet-Lester Fear of Death Scale (CL-FODS) (Espinoza et al., 2011) consists of 28 items distributed in 4 subscales: 1) death of self; 2) dying of self; 3) death of others; and 4) dying of others. Each subscale is composed of seven items with a Likert-type response pattern ranging from not at all worried (1 point) to very worried (5 points). The psychometric indices of this scale are adequate ($\alpha = 0.80$).

The Resilience Scale (ER-14), in the Spanish version of Wagnild's 14-item Resilience Scale (Sánchez-Teruel and Robles-Bello, 2015), uses a Likert-type scale from 1 to 7, with 1 being the lowest score indicating strongly disagree and 7 being the highest score indicating strongly agree. This scale poses very high levels of resilience if a score between 82 and 98 points is obtained, high resilience between 49 and 63 points, low resilience between 31 and 48 points and very low levels of resilience between 14 and 30 points. The reliability index is within the values considered adequate ($\alpha = 0.79$).

2.4. Procedure

Data collection was carried out through a self-administered survey during the years 2017, 2018 and 2019 created in the LimeSurvey program.

2.5. Data analysis

The database and statistical analyses were carried out using SPSS 26.0 for Windows.

A descriptive analysis of quantitative variables was performed. Qualitative variables were described as frequencies and percentages and quantitative variables as ranges, means and standard deviations. Pearson's correlation coefficient was used for the relationship between the variables, accepting $p < 0.05$ as a statistically significant value. In addition, a repeated measures ANOVA with a Bonferroni correction (degrees of freedom have been corrected with the Greenhouse-Geisser score) was performed to compare mean scores with respect to the year-of-course variable. Finally, Student's *t*-test was used to identify statistically significant differences between mean scores with respect to the sex variable.

2.6. Ethical considerations

The survey was accompanied by information about the study and consent to participate. The study was approved by the ethics committee (ÉTICA-ULE-017–2017), which ensures compliance with national and international ethical and legal aspects.

3. Results

3.1. Descriptive analysis

Table 1 shows the descriptive scores for fear of death and resilience for each subscale in the first three academic years of the nursing students of the 2017–2021 graduating class.

As can be seen, the highest fear of death score in all three course years corresponds to the subscale *death of others*. The next highest score in all three years was recorded for the subscale of *dying of self*, followed by *dying of others* and, finally, *death of self*, had the lowest score in all three years. Fig. 1 shows the distribution of mean scores for each subscale of the CL-FODS, where it can be seen that it follows the same pattern for each academic year. Regarding the resilience variable, students in all three academic years obtain scores that indicate very high levels of resilience (M = 80.06; M = 81.07; M = 82.79).

3.2. Correlation analysis

The different subscales of the CL-FODS correlate directly and significantly with each other over the first three academic years, so that the higher the fear of one's own death, fear of other people's death, fear of one's own dying process and fear of other people's dying process in the first year, the higher the fear of all the mentioned subscales in the second and third years (Table 2).

As shown in Table 3, age correlates inversely and significantly with the subscale *dying of others* in first-, second- and third-year students. Likewise, it also does so with the subscale *death of others* in third-year students, so that, for all academic years, the older the student, the less fear of the process of dying of others and the less fear of the death of others in third-year students. With respect to the relationship between resilience and fear of death, there is no statistically significant correlation. However, resilience is directly and significantly correlated between the different academic years, so that the higher the resilience of students in the first year, the higher it will be in the second and third year. Likewise, the higher the student resilience in the second year, the higher the student resilience in the third year.

3.3. Analysis of differences between mean scores with respect to year of course and sex

Repeated measures ANOVA reveals significant differences between mean scores for resilience and the dying of self with respect to the year-of-course variable. As shown in Table 4, the subscale *dying of self* is higher in third year students (3.92 ± 0.68) than in first year students (3.63 ± 0.86) and second year students (3.65 ± 0.79), with significant differences between them ($p < .01$). Therefore, third-year students are more afraid of the process of dying than first and second-year students. Regarding the variable "resilience", it is also higher in the third-year group (82.79 ± 8.72) than in the first (80.01 ± 9.80) and second year (81.07 ± 8.08), obtaining significant differences for this variable between first- and third-year students ($p < .01$) and between second- and third-year students ($p < .04$). Thus, third year students are more resilient than first- and second-year students.

According to the variables sex and employment, it can be indicated that there are significant differences according to the sex of the students and some subscales of fear of death and the resilience variable in different academic years, but not according to the employment situation where they find themselves. Thus, as Table 5 shows, there are only significant differences for the gender variable in the subscales "fear of one's own dying process" in the first, second and third years, "fear of the other people's dying process" in the first and second years and with the variable "resilience" in the third year.

The results indicate that women are more fearful of their own dying process than men. They also have higher values for fear of the dying process of others in the first and second academic years. However, it is men in the third year who are more resilient than women.

4. Discussion

4.1. Fear of death

During the three academic years, the Nursing students presented medium-high values of fear of death, a level similar to those obtained in other studies with similar populations (Fernández-Martínez et al., 2019; Kim, 2019; Mondragón-Sánchez et al., 2015). Students in all three academic years feared the death of others the most, followed by the process of dying itself and, to a lesser extent, their own death. In line with other research, the data show that what generates the greatest fear is the

Table 1
Descriptive statistics of fear of death and resilience by year-of-course.

		1st year of course			2nd year of course			3rd year of course		
		Min-Max	M±SD	α	Min-Max	M±SD	α	Min-Max	M±SD	α
CL-FODS	Death of self	1–5	3.22 ± .90	.80	1–5	3.30 ± .86	.81	1–5	3.25 ± .90	.85
	Dying of self	1–5	3.63 ± .86	.86	1–5	3.65 ± .79	.85	2–5	3.92 ± .68	.81
	Death of others	2–5	4.08 ± .73	.80	2–5	4.02 ± .67	.81	2–5	3.97 ± .74	.85
	Dying of others	1–5	3.46 ± .06	.84	2–5	3.48 ± .67	.79	1–5	3.46 ± .79	.84
ER-14	Total	54–95	80.01 ± 9.80	.83	56–98	81.07 ± 8.08	.81	52–98	82.79 ± 8.72	.84

Note: CL-FODS: Collett-Lester Fear of Death Scale. ER-14: Resilience Scale. Min-Max; Minimum-Maximum. M ± SD: Mean ± Standard Deviation. α: Cronbach's alpha.

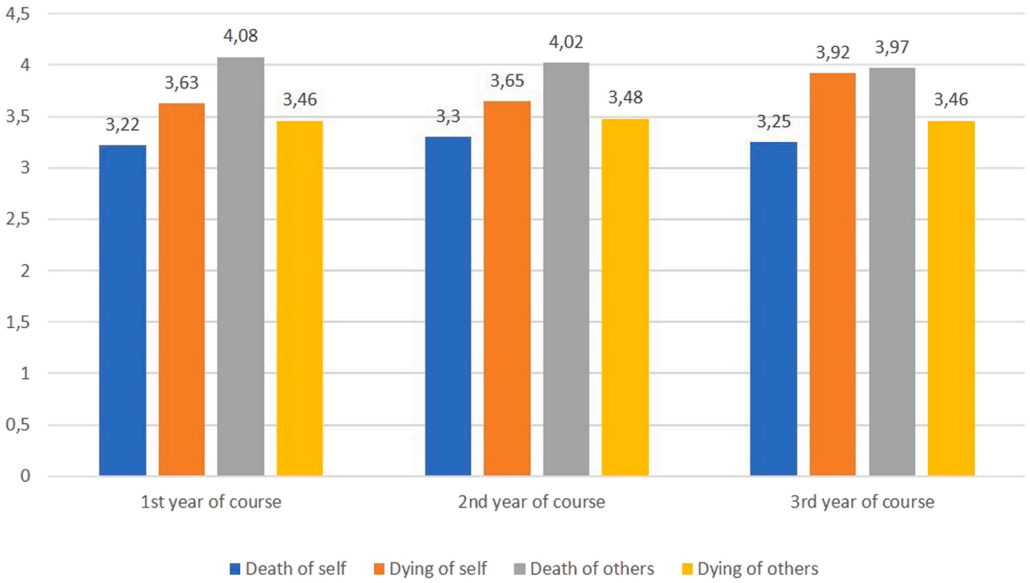

Fig. 1. Mean fear of death (CL-FODS) scores by year-of-course.

Table 2
Pearsońs correlations between the subscales of the CL-FODS.

		1st year of course CL-FODS				2nd year of course CL-FODS				3rd year of course CL-FODS		
		1	2	3	4	5	6	7	8	9	10	11
1st year of course CL-FODS	1. Death of self											
	2. Dying of self	.22**										
	3. Death of others	.51**	.57**									
	4. Dying of others	.67**	.70**	.63**								
2nd year of course CL-FODS	5. Death of self	.65**	.58**	.32**	.49**							
	6. Dying of self	.40**	.54**	.30**	.36**	.69**						
	7. Death of others	.41**	.32**	.53**	.35**	.52**	.41**					
	8. Dying of others	.52**	.45**	.43**	.59**	.59**	.51**	.62**				
3rd year of course CL-FODS	9. Death of self	.65**	.42**	.34**	.39**	.62**	.25*	.45**	.40**			
	10. Dying of self	.41**	.45**	.32**	.45**	.32**	.37**	.22*	.37**	.42**		
	11. Death of others	.38**	.33**	.52**	.42**	.25*	.15	.43**	.44**	.41**	.48**	
	12. Dying of others	.34**	.26**	.33**	.41**	.32**	.20**	.43**	.56**	.43**	.46**	.69**

Note: CL-FODS: Collett-Lester Fear of Death Scale.
* : $p < .05$
** : $p < .01$.

death of others (Bermejo et al., 2018; Espinoza et al., 2011; Mondragón-Sánchez et al., 2015). It would then be the fact of losing a loved one or a patient in a terminal situation, the separation that this entails, as well as the visualisation of the body of the deceased that would generate, on the one hand, fear, uncertainty and discomfort on seeing their own reality and death reflected in the death of others and on the other, the fear of separation with the subject themselves.

On the other hand, on studying the relationships between the different subscales of fear of death and the students' year of study, as well as the relationships between the subscales themselves, a direct and significant association was found between the four subscales in all years, so that those with high scores in one subscale will also show it in the others and vice versa. Similarly, in the second and third years, nursing students will be more fearful of death and the process of dying, both their own and others', the higher the score in the first year. Other studies also evidence this positive correlation between the different subscales, but they do not analyse it longitudinally throughout the degree course (Edo-Gual et al., 2011; Espinoza et al., 2011; Fernández-Martínez et al., 2019).

Regarding age, it only correlates inversely and significantly with the fear of the dying process of others in the first, second and third years of the course, as well as with the fear of death of others in the third year. In this way, it is the youngest subjects in these years who will have the greatest fear of death on the mentioned subscales. This inverse association between age and level of fear of death is described in other studies, but, as mentioned above, not longitudinally either (Bermejo et al., 2018; Martí-García et al., 2020). Age provides increased life experience, as well as experience with the terminally ill patient and the dying process, which may facilitate the development of coping strategies and make the dying process less traumatic. This, together with the cognitive and personal maturity that comes with age, may account for the phenomenon.

Finally, no differences were found between students' employment status with respect to the different subscales of fear of death. However, differences were found with respect to gender. Women in all years have higher levels of fear of their own dying process and women in the first two years are more fearful of other people's dying process. These results confirm the universal hypothesis that women have higher levels of fear than men, which has also been found in other studies (Fernández-Martínez et al., 2019). The most widely accepted explanation is that women show greater ease in admitting and expressing their emotions, in general and feelings related to death, in particular (Edo-Gual et al., 2011).

Differences were also found with respect to the students' academic year and the different subscales, but these were significant only in the

Table 3
Pearson's correlations between age, resilience and fear of death.

		Age	1st year of course ER-14	2nd year of course ER-14
1st year of course CL-FODS	Death of self	-.13	-.08	-.08
	Dying of self	-.77	-.10	-.09
	Death of others	-.21	.03	-.07
	Dying of others	-.27**	-.15	-.02
	ER-14	.16	1	.52**
2nd year of course CL-FODS	Death of self	-.07	-.02	-.08
	Dying of self	-.02	-.07	-.14
	Death of others	-.03	-.02	-.16
	Dying of others	-.26*	-.09	-.15
	ER-14	-.09	.52**	1
3rd year of course CL-FODS	Death of self	-.07	-.07	-.04
	Dying of self	-.14	-.06	-.09
	Death of others	-.26**	-.11	-.15
	Dying of others	-.26**	-.02	-.03
	ER-14	-.05	.53**	.68**

Note: CL-FODS: Collett-Lester Fear of Death Scale.
* : $p < .05$,
** : $p < .01$. ER-14: Resilience Scale

Table 4
Differences of means by year of course.

Intra-subject effects tests				Pairwise comparisons	
		F	p-value		p-value[a]
CL-FODS. Dying of self	Greenhouse-Geisser	8.04	.00	1st / 3rd year of course	.02
				2nd / 3rd year of course	.04
ER-14. Total	Greenhouse-Geisser	5.53	.01	1st / 3rd year of course	.01
				2nd / 3rd year of course	.04

Note: CL-FODS: Collett-Lester Fear of Death Scale. ER-14: Resilience Scale.
[a] Fit for Bonferroni comparisons.

case of the subscale dying of self. Thus, in the last year, students are more afraid of their own dying process than when they were in lower years. Although age correlates inversely with fear of other people's death this may be due to the fact that, in the third year, they have seen most of the pathologies, at a theoretical level and have done more clinical practice, which will have provided them with more experiences with people in a situation of grief and death, producing the effect of transference and the belief that both their loved ones and they themselves may suffer from this suffering. Other research has found the same results (Mondragón-Sánchez et al., 2015), although few studies have analysed the phenomenon longitudinally. In this line, López-Alonso et al. (2018), when analysing the effect of experimental games designed for the classroom, found that fear values increase in the post-game period, which supports the previous hypothesis and hence the importance of monitoring the student's experience of the fear of death to address it and provide them with tools to manage it properly; otherwise, this fear will increase and have a direct impact on the denial of it and the rejection of end-of-life care.

Table 5
Differences in means between resilience and fear of death by sex.

Course	Variables	Sex		t-Student	p-value
		Female	Male		
1st year of course	Death of self	3.26	2.8	1.56	.122
	Dying of self	3.71	2.93	2.81	.006[a]
	Death of others	4.13	3.66	1.97	.052
	Dying of others	3.54	2.8	2.83	.006[a]
	ER-14	79.57	84.50	-1.52	.132
2nd year of course	Death of self	3.35	2.83	1.85	.068
	Dying of self	3.71	3.09	2.43	.017[a]
	Death of others	4.06	3.71	1.53	.129
	Dying of others	3.53	3.04	2.19	.031[a]
	ER-14	80.60	85.30	-1.76	.081
3rd year of course	Death of self	3.28	3.04	0.78	.437
	Dying of self	3.97	3.51	2.03	.045[a]
	Death of others	4.01	3.57	1.81	.074
	Dying of others	3.48	3.26	.86	.39
	ER-14	82.19	88.2	-2.11	.038[a]

Note: ER-14: Resilience Scale.
* : $p < .05$

4.2. Resilience

Nursing students showed very high levels of resilience, in contrast to Kim's findings in 2019. According to the results, no relationship was found between resilience and the age of the students (Ríos-Risquez et al., 2018), in contrast to other studies (Chow et al., 2018; Meyer and Shatto, 2018; Tur et al., 2020), but there was a direct and significant relationship between the levels of resilience in the different academic years. Second- and third-year students will be more resilient the more resilient they are in the first year.

Significant differences are found with respect to the year; final-year students are the most resilient, being this the natural evolution (Ríos-Risquez et al., 2018). In other words, resilience increases progressively as a function of the satisfactory responses that the student finds when facing academic stressors or adverse situations, promoting the progressive development of resilience throughout the academic years (Ríos-Risquez et al., 2018).

With regard to the sex of the sample, only men in third year are more resilient than women in the same academic year, in line with other studies (Tur et al., 2020).

4.3. Relationship between fear of death and resilience

The results of fear of death show that there is still a lack of training in end-of-life care. This is supported by other research where students recognise the need for more specific preparation in aspects related to the grieving and death process (Fernández-Martínez et al., 2019; Martí-García et al., 2020). Although no association was found between resilience and fear of death, resilience continues to be an essential and inherent characteristic of nursing for the development of correct healthcare (Arrogante et al., 2015). Studies show that death education leads to more resilient students (Kim, 2019) and others confirm the positive effect of resilience on personal well-being, life satisfaction and adaptive coping in stressful situations (Chow et al., 2018; Kim, 2019; Ríos-Risquez et al., 2018). Increased resilience has a positive impact on nursing practice (Amsrud et al., 2019; Thomas and Asselin, 2018; Walsh et al., 2020), therefore, the development of specific resilience training programmes and their implementation in the nursing curriculum seems essential.

4.4. Limitations

This study has some limitations. The sample under study is small and strongly female, so it cannot be said that it is a representative sample of all Spanish nursing students, although it does allow an approximation of

the levels of fear of death and resilience and the need to introduce competence improvements in coping with care at the end of life and palliative care. Likewise, the non-randomness of the sample and the voluntary nature of the survey completion may bias the research as there may be a particular interest of the participants in the subject matter, conditioning therefore their responses. Finally, it should be pointed out that our corpus was not culturally diverse. Our subjects all shared the same cultural and ethnic background (Spanish, white); thus, our results cannot be generalized to other cultural contexts. In future studies it would be interesting to work with a more diverse corpus to explore whether cultural background or ethnicity have any bearing on resilience or fear of death.

5. Conclusions

Nursing students obtained medium-high levels of fear of death during the first three years, with the subscale "fear of other people's death" being the one with the highest levels. The higher the level of fear of death in the four subscales in the first year, the higher the level in the second and third years. Younger students have the highest fear of other people's dying process. Third-year students have the highest levels of fear of their own dying process. In terms of gender, females are the most fearful of their own and others' dying process. There are no differences between the level of fear of death and the students' campus and work.

Students show very high levels of resilience, with males in the third year being the most resilient. Resilience increases with year of course and is not related to age, nor is there an association between the level of fear of death and the degree of resilience.

Specific training is needed in end-of-life care, in managing the emotions that accompany this process and in fostering resilience. All of this with the aim of promoting effective coping strategies that ensure quality care for the patient and family and the psychological well-being of the professional.

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CRediT authorship contribution statement

Elena Fernández-Martínez: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Validation, Writing – review & editing. **Isabel Pérez Martín:** Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Resources, Roles/Writing – original draft. **Cristina Liébana-Presa:** Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Validation, Visualization, Writing – review & editing. **MCristina Martínez-Fernández:** Methodology, Software, Supervision, Validation, Writing – review & editing. **Ana Isabel López-Alonso**: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Visualization, 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.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.nepr.2021.103175.

References

Amsrud, K.E., Lyberg, A., Severinsson, E., 2019. Development of resilience in nursing students: a systematic qualitative review and thematic synthesis. Nurse Educ. Pract. 41, 102621 https://doi.org/10.1016/j.nepr.2019.102621.

Arrogante, Ó., 2015. Resiliencia en enfermería: definición, evidencia empírica e intervenciones. Index De Enfermeria 24 (4), 232–235. https://doi.org/10.4321/s1132-12962015000300009.

Arrogante, Ó., Pérez-García, A.M., Aparicio-Zaldívar, E.G., 2015. Bienestar psicológico en enfermería: relaciones con resiliencia y afrontamiento. Enferm. Clín. 25 (2), 73–80. https://doi.org/10.1016/j.enfcli.2014.12.009.

Benito, E., Dones, M., Babero, J., 2016. El acompañamiento espiritual en cuidados paliativos. Psicooncología 13 (2–3), 367–384. https://doi.org/10.5209/PSIC.54442.

Bermejo, J.C., Villacieros, M., Hassoun, H., 2018. Actitudes hacia el cuidado de pacientes al final de la vida y el miedo a la muerte en una muestra de estudiantes sociosanitarios. Med. Paliativa 25 (3), 168–174. https://doi.org/10.1016/j.medipa.2017.02.004.

Chover-Sierra, E., Martínez-Sabater, A., 2020. Analysis of Spanish nursing students' knowledge in palliative care. An online survey in five colleges. Nurse Educ. Pract. 49, 102903 https://doi.org/10.1016/j.nepr.2020.102903.

Chow, K.M., Tang, W.K., Chan, W.H., Sit, W.H., Choi, K.C., Chan, S., 2018. Resilience and well-being of university nursing students in Hong Kong: a cross-sectional study. BMC Med. Educ. 18, 13. https://doi.org/10.1186/s12909-018-1119-0.

Delgado, C., Upton, D., Ranse, K., Furness, T., Foster, K., 2017. Nurses' resilience and the emotional labour of nursing work: an integrative review of empirical literature. Int. J. Nurs. Stud. 70, 71–88. https://doi.org/10.1016/j.ijnurstu.2017.02.008.

Eaves, J.L., Payne, N., 2019. Resilience, stress and burnout in student midwives. Nurse Educ. Today 79, 188–193. https://doi.org/10.1016/j.nedt.2019.05.012.

Edo-Gual, M., Monforte-Royo, C., Tomás-Sábado, J., 2015. Coping with suffering, dying and death: Challenges for care in the 21st century. Enferm. Clín. 25, 42–44. https://doi.org/10.1016/j.enfcli.2014.10.002.

Edo-Gual, M., Tomás-Sábado, J., Ardilla-Herrero, A., 2011. Fear of death among nursing students. Enferm. Clín. 21 (3), 129–135. https://doi.org/10.1016/j.enfcli.2011.01.007.

Espinoza, M., Sanhueza, O., 2012. Fear of death and its relationship with emotional intelligence of nursing students in Concepción. Acta Paul. De Enferm. 25 (4), 607–613.

Espinoza, M., Sanhueza, O., Barriga, O., 2011. Validation of Collet-Lester's Fear of Death Scale in a sample of nursing students. Rev. Lat. -Am. De Enferm. 19, 1170–1180. https://doi.org/10.1590/S0104-11692011000500015.

Fernández-Martínez, E., Liébana-Presa, C., Martínez-Soriano, M., López-Alonso, A., 2019. Miedo a la muerte y su relación con la inteligencia emocional en estudiantes de Enfermería. Med. Paliativa 26 (3), 205–210. https://doi.org/10.20986/medpal.2019.1063/2019.

Gama, G., Barbosa, F., Vieira, M., 2014. Personal determinants of nurses' burnout in end of life care. Eur. J. Oncol. Nurs. 18 (5), 527–533. https://doi.org/10.1016/j.ejon.2014.04.005.

Gorchs-Font, N., Ramon-Aribau, A., Yildirim, M., Kroll, T., Larkin, P., Subirana-Casacuberta, M., 2021. Nursing students' first experience of death: identifying mechanisms for practice learning. A realist review. Nurse Educ. Today 96, 104637. https://doi.org/10.1016/j.nedt.2020.104637.

Harrington, K.J., Affronti, M.L., Schneider, S.M., Razzak, A.R., Smith, T.J., 2019. Improving attitudes and perceptions about end-of-life nursing on a hospital-based palliative care unit. J. Hosp. Palliat. Nurs. 21 (4), 272–279. https://doi.org/10.1097/NJH.0000000000000523.

Henoch, I., Melin-Johansson, C., Bergh, I., Strang, S., Ek, K., Hammarlund, K., Lundh Hagelin, C., Westin, L., Österlind, J., Browall, M., 2017. Undergraduate nursing student's attitude and preparedness toward caring for dying person – a longitudinal study. Nurse Educ. Pract. 26, 12–20. https://doi.org/10.1016/j.nepr.2017.06.007.

Kim, J., 2019. Nursing students' relationships among resilience, life satisfaction, psychological well-being and attitude to death. Korean J. Med. Educ. 31 (3), 251–260. https://doi.org/10.3946/kjme.2019.135.

Leppin, A.L., Bora, P.R., Tilburt, J.C., Gionfriddo, M.R., Zeballos-Palacios, C., Dulohery, M.M., Sood, A., Erwin, P.J., Brito, J.P., Boehmer, K.R., Montori, V.M., 2014. The efficacy of resiliency training programs: a systematic review and meta-analysis of randomized trials. PLoS One 9 (10), 111420. https://doi.org/10.1371/journal.pone.0111420.

Lima-Rodríguez, J.S., Asensio-Pérez, M., de los, R., Palomo-Lara, J.C., Ramírez-López, E. B., Lima-Serrano, M., 2018. Reasons for deciding to die in hospital or at home. The vision of professionals. Gac. Sanit. 32 (4), 362–368. https://doi.org/10.1016/j.gaceta.2018.04.005.

López-Alonso, A.I., Fernández-Martínez, E., Liébana-Presa, C., Vázquez, A.M., Castro, M. P., 2018. Experimental classroom games: a didactic tool in palliative care. Rev. da Esc. De Enferm. da USP 52, e03310. https://doi.org/10.1590/s1980-220×2017007703310.

Martí-García, C., Ruiz-Martín, L., Fernández-Alcántara, M., Montoya-Juárez, R., Hueso-Montoro, C., García-Caro, M.P., 2020. Content analysis of the effects of palliative care learning on the perception by nursing students of dying and dignified death. Nurse Educ. Today 88, 104388. https://doi.org/10.1016/j.nedt.2020.104388.

McGowan, J.E., Murray, K., 2016. Exploring resilience in nursing and midwifery students: a literature review. J. Adv. Nurs. 72 (10), 2272–2283. https://doi.org/10.1111/jan.12960.

Meyer, G., Shatto, B., 2018. Resilience and transition to practice in Direct entry nursing graduates. Nurse Educ. Pract. 28, 276–279. https://doi.org/10.1016/j.nepr.2017.10.008.

Ministerio de Ciencia e Innovación, 2008. ORDEN CIN/2134/2008, de 3 de julio, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Enfermero. Bol. Of. Del. Estado 174, 31680–31683. ⟨https://www.boe.es/eli/es/o/2008/07/03/cin2134⟩.

Mondragón-Sánchez, E.J., Torre, E.A., Morales, M.L., Landeros-Olvera, E.A., 2015. A comparison of level of fear of death among students and nursing professionals in Mexico. Rev. Lat. -Am. De Enferm. 23 (2), 323–328. https://doi.org/10.1590/0104-1169.3550.2558.

Palma-Gómez, A., Herrero, R., Banõs, R., Garciá-Palacios, A., Castañeiras, C., Fernandez, G.L., Llull, D.M., Torres, L.C., Barranco, L.A., Cárdenas-Gómez, L., Botella, C., 2020. Efficacy of a self-applied online program to promote resilience and coping skills in university students in four Spanish-speaking countries: study protocol for a randomized controlled trial. BMC Psychiatry 20 (1), 1–15. https://doi.org/10.1186/s12888-020-02536-w.

Poultney, S., Berridge, P., Malkin, B., 2014. Supporting pre-registration nursing students in their exploration of death and dying. Nurse Educ. Pract. 14 (4), 345–349. https://doi.org/10.1016/j.nepr.2013.12.002.

Ríos-Risquez, M.I., García-Izquierdo, M., Sabuco-Tebar, E.A., Carrillo-García, C., Solano-Ruíz, C., 2018. Connections between academic burnout, resilience and psychological well-being in nursing students: a longitudinal study, 2018 J. Adv. Nurs. 74, 2777–2784. https://doi.org/10.1111/jan.13794.

Sánchez-Teruel, D., Robles-Bello, M.A., 2015. 14-item resilience scale (RS-14): psychometric properties of the Spanish version. Rev. Iberoam. De Diagnóstico Y. Eval. 40 (2), 103–113. ⟨https://www.redalyc.org/articulo.oa?id=459645432011⟩.

Thomas, L.J., Asselin, M., 2018. Promoting resilience among nursing students in clinical education. Nurse Educ. Pract. 28, 231–234. https://doi.org/10.1016/j.nepr.2017.10.001.

Tur, A.M., Cuartero, N., Gea-Caballero, V., Juárez-Vela, R., 2020. Resilience scale psychometric study. Adaptation to the Spanish population in nursing students. Int. J. Environ. Res. Public Health 17 (12), 4602. https://doi.org/10.3390/ijerph17124602.

Van Hoek, G., Portzky, M., Franck, E., 2019. The influence of socio-demographic factors, resilience and stress reducing activities on academic outcomes of undergraduate nursing students: a cross-sectional research study. Nurse Educ. Today 72, 90–96. https://doi.org/10.1016/j.nedt.2018.10.013.

Walsh, P., Owen, P.A., Mustafa, N., Beech, R., 2020. Learning and teaching approaches promoting resilience in student nurses: an integrated review of the literature. Nurse Educ. Pract. 45, 102748 https://doi.org/10.1016/j.nepr.2020.102748.

Xu, F., Huang, K., Wang, Y., Xu, Y., Ma, L., Cao, Y., 2019. A questionnaire study on the attitude towards death of the nursing interns in eight teaching hospitals in Jiangsu, China. BioMed Res. Int. 2019, 3107692 https://doi.org/10.1155/2019/3107692.