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Nursing student attitudes toward dying patient care: A European multicenter cross-sectional study

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Abstract. *Background and aim of the work:* Nursing education plays a key role in preparing future nurses to deal with dying patients, which represents one of the most emotionally involving aspect of nursing. The aims of the study were to explore nursing students' attitudes towards care of dying patients in three different European contexts and to analyze the variables that can influence them. *Methods:* We conducted an international multicenter cross-sectional study. We administered the Frommelt Attitude Toward Care of the Dying Scale form B (FATCOD-B) and a demographic form to 569 students, enrolled in three Nursing Programmes in different countries (Italy, Spain and United Kingdom), who accepted to participate in the study. The data were analyzed using SPSS software version 26.0. *Results:* Median total FATCOD-B scores indicated intermediate levels of students' attitudes towards care for dying patients, with a statistically significant difference among the three student groups. The median total FATCOD-B scores did not statistically significantly change in students with different age, gender, year of study, religious beliefs, nursing education on palliative care, previous experiences of dying patient care and personal grieving. *Conclusions:* In our study, nursing students feel partially prepared in caring for dying patients and their attitudes do not change as the course of study progresses. No selected variables had an impact on students' attitudes towards palliative care. Since nurses play a vital role in ensuring the quality of care, education on end-of-life care should be offered as a core part of undergraduate nursing programs. (www.actabiomedica.it)

Key words: Nursing students, Nursing education, FATCOD-B, Attitudes towards caring for dying patients, palliative care

Background

Palliative care provides support for people with terminal illnesses (1), improving the quality of life of patients and their families through "an optimal treatment of pain and other physical, psychosocial and spiritual issues" (2). Nurses play an essential role in providing palliative care to patients at the end of their lives (3) and their families, as nurses spend most of their working time with patients in care (4-6). Care for patients at the end of life can be considered the most demanding part of nursing practice (7) probably because it is complex and emotionally involving to meet human needs in people near death (8). Nurses

have the great responsibility to establish meaningful and trusting relationships with their clients (9), using appropriate communication tools in order to provide comfort and information in ethical and respectful ways (10-14). Nurses' attitudes towards death can directly impact on the quality of palliative care provided to dying patients (5,15) and their families (16). In fact, nurses with positive attitudes towards death are more likely to have a positive attitude in providing quality care to end-of-life patients (17).

Indeed, research showed that many nurses and nursing students present difficulties managing such situations (18-22), probably because the inclination to care for dying people is not innate (23). Nursing students can be emotionally involved in the physical suffering of patients; sudden death is more difficult to cope with than expected death and care for younger terminally ill patients generates greater anxiety (24). In other studies (25,26), first-year nursing students describe in such a situation the fear of losing control and not being able to support patient and relatives in an appropriate and sensitive way. End-of-life care generates anxiety, terror, and emotional distress in nursing students (15,27), probably because it can awaken thoughts of their own death (28). In particular, pain, fear, anguish, emotional trauma develop from the first clinical experience of care for patients at the end of life (29). All these observations make it necessary to implement education to improve attitudes towards caring for dying people through specific training (30-32). Many studies highlighted the need to increase training opportunities on palliative care in University education (4,6,33-39). In particular, structured training able to integrate theoretical and practical aspects seems to improve attitudes towards end-of-life assistance (10,18,40). In fact, nursing students learn best when they have the opportunity to combine teaching concepts with practice (41,42), integrating knowledge and experience through reflection (43). Therefore, nursing practical training in clinical internships (44-47), or in simulations (15,41,48-50) can play a decisive role in promoting professional skills in students, preparing them to provide high-quality care in such a complex (3) and emotionally demanding area (25,26,51) as that of care for dying people. However, there are several variables in addition to training that can influence a positive attitude towards death and assistance for the dying patient: work experience, previous caring experiences for dying patients and cultural factors (5). Some studies also investigated other possible predictors for attitude towards death in nursing students such as socio-demographic variables (15,52). Older age would seem to be a positive predictor for end-of-life aptitude for both nurses (53) and nursing students (52,54) as well as place of birth and religion (6). On the other hand, gender seems not to influence this attitude in nursing students in accordance with many authors (4,55,56). The attitude of students towards end-of-life care also varies among countries: a poor attitude was highlighted among Palestinian and Turkish nursing students who obtained lower average scores in the Frommelt Attitude Toward Care of the Dying Scale form B (FATCOD-B) questionnaire than that obtained by students attending Nursing Programmes in Italy, Canada, USA, Sweden (4). In another study, using the FATCOD questionnaire, Iranian students showed more fear of death than Swedish students who, on the other hand, were more comfortable in talking and interacting with dying patients (57).

In 2004, a taskforce of the European Association for Palliative Care (EAPC) formulated the "Guide for development of palliative nurse education in Europe". The task force recognized palliative care as a specific area of nursing practice, requiring a solid educational foundation to ensure the delivery of high-quality nursing services. Different academic levels of education need to be provided to healthcare professionals based on their degree of involvement in palliative care (58). In 2020, the Italian University Ministry invited each University to implement specific recommendations regarding the teaching and learning of both palliative care and pain therapy in the degree courses in Medicine, Nursing, Psychology and Social Service (59).

Exploring the attitude of undergraduate nursing students towards end-of-life care is essential to identify all critical issues (60) and develop the skills and knowledge that will allow nurses to provide quality care. However, the scientific evidence on this topic is still limited. Furthermore, despite the relevance of the EAPC guidelines for nursing education, most studies investigating student attitudes are monocentric and limited to national contexts, without a broader

overview on the universal factors which can impact on an appropriate, ethical and respectful attitude for dying people.

Aim

This European multicenter cross-sectional study was implemented to explore nursing students' attitudes toward care of dying patients in three different countries and their potential predictors.

Method

Setting and Participants

In 2017-2018 we asked all students enrolled in each year of the Nursing Programme of Modena (University of Modena and Reggio-Emilia, Italy), Tarragona (University Rovira y Virgili, Spain) and Chelmsford (Anglia Ruskin University, United Kingdom) to participate in the study. All Nursing students enrolled in the three Nursing Programmes were considered eligible to participate: 383 Italians, 193 Spanish and 680 British.

In Nursing Programme in Modena (Italy), the standard nursing education course lasts 3 years [180 European Credit Transfer System (ECTS)]; regarding palliative care, a 12-hour mandatory theoretical module "Pain and Palliative Care Nursing" has been implemented in the second semester of the second year. In the Nursing Programme in Tarragona (Spain), the standard nursing education course lasts 4 years (240 ECTS). In the Adult Nursing Degree Course in Chelmsford (UK), the standard nursing course lasts 3 years (180 ECTS) and includes a 2-hour meeting focused on palliative care has been implemented during the teaching of "Long Term Conditions".

Instrument and data collection

Students who agreed to participate in the study filled in a form divided into two questionnaires. The first one collected demographic, educational and personal variables: age, gender, University of Nursing Programme, academic year, religious beliefs, education on palliative care, previous experiences of caring for terminally ill patients, current and past personal grieving experiences. The second questionnaire was represented by the Frommelt Attitude Toward Care of the Dying Scale form B (FATCOD-B) (61), one of the most used and easy to complete instruments for measuring undergraduate nursing students' attitudes towards end-of-life care (15,18). According to their nationality, the students were given the Italian (10), Spanish (62) or English (61) version of FATCOD-B. This scale consists of 30 Likert-type items which are scored on a five-point scale (1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree). 15 items are formulated in a positive form and 15 in a negative form. Scoring has been reversed for the negative items. The total score is then calculated by adding the responses to the individual items and its value is ranged between a minimum of 30 and a maximum of 150 points. A high score reflects positive attitudes towards end-of-life care for patients and their family. The items were also divided into groups which investigated the patient- and family-centered dimensions. The reported internal consistency of the FATCOD-B was represented by $\alpha = 0.83$ in the Italian version (10), $\alpha = 0.76$ in the Spanish version (62) and $\alpha = 0.89$ in the English version (61). In each Nursing Programme, one person from the teaching staff was commissioned to explain to nursing students the purposes of the study and the method for collecting the questionnaires. The questionnaires were administered in the classroom, at the end of a lesson. Each student had 20 minutes available to anonymously fill in the questionnaires. Instead, English students responded to an online survey.

Ethical considerations

Nursing education departments approved the study designs. For Italian and Spanish researchers, the approval of the local Ethical Committee was not necessary since this survey was aimed at evaluating the quality of education. The Department Research Ethics Panel (DREP) of Anglia Ruskin University approved the study (Protocol number = FHSCE-DREP-17-010). In accordance with the Declaration of Helsinki, participation in the study was voluntary and free from any form of benefit or coercion. All

participants were informed of the possibility of withdrawing at any stage without any repercussions on their future study course. Furthermore, eligible participants were informed of the study purpose. The completion of the questionnaires was considered consent to participate in the study. The students were assured that the information collected would be kept confidential, given the sensitive nature of the data.

Data analysis

The data were analyzed using descriptive statistics [median, mean, interquartile range (IQR)] and non-parametric tests [Kruskal-Wallis Test (KW), Tukey's Post-hoc Test]. FATCOD-B scores in the three student groups and the selected variables (age, gender, University of Nursing Programme, academic year, religious beliefs, education on palliative care, previous experiences of caring for terminally ill patients, current and past personal grieving experiences) were analysed using Pearson Chi-Square (χ^2). Statistical significance was set for $p<0.05$. Statistical analysis was performed using SPSS Version 26 (IBM SPSS Statistics 26).

Results

Our sample was composed of a total of 569 students who accepted to participate in the study. As shown in Table 1, 54.5% of the sample was Italian, 27.8% Spanish and 17.7% British.

Respondents reported a median age of 21 years (IQR=4; range 18-56), with a statistically significant difference among the three groups [Italians median age=21 years (IQR=2), Spaniards median age =20 years (IQR=4), British median age =35 years (IQR=19); KW=137, $p<0.001$]. In all three groups, most respondents were female (84%), with a statistically significant difference among the three groups (Italian females 77%, Spanish females 89%, British females 96%; $\chi^2=24.1$, $p<0.001$).

The analysis of Cronbach's alpha for the 30 items of the FATCOD-B scale showed a good internal consistency ($\alpha=0.79$). The "total score of FATCOD-B" reported a median of 101.5 (IQR=10) among Italian students and 95 in both of the other groups (median score=95 (IQR=10) in Spaniards; median score=95 (IQR=11) in British), as shown in Table 2. Tukey's Post Hoc analysis highlighted that Italian and Spanish students ($p<0.0001$) as well as Italian and British students ($p<0.0001$) statistically significantly differed in the median total FATCOD-B score.

No significant differences were found between female (Median=99, IQR=11) and male (Median=99, IQR=13) students in the total score of the scale. The two dimension scores reported by our sample are shown in Figure 1. The "Patient-centered" dimension score of FATCOD-B scale statistically significantly differed in the three groups: Italian students' median score =63, Spanish students' median score =59, British students' median score =58 (KW=60.272; $p=0.000$). Similarly, the "Family-centered" dimension score statistically significantly differed in the three groups: Italian students' median score =39, Spanish students' median score =36, British students' median score =36 (KW=83.429; $p=0.000$).

Table 1. Academic year of student groups divided by country of study

Academic year	**Total sample *n* (%)**	**Student groups by country of study**		
		Italy *n* (%)	**Spain *n* (%)**	**United Kingdom *n* (%)**
1st year	215 (37.8)	127 (41)	70 (44.3)	18 (17.8)
2nd year	143 (25.1)	101 (32.6)	20 (12.7)	22 (21.8)
3rd year	194 (34.1)	82 (26.4)	51 (32.3)	61 (60.4)
4th year	17 (3)	-	17 (10.7)	-
Total	569 (100)	310 (100)	158 (100)	101 (100)

Table 2. FATCOD-B total score in the three student groups

FATCOD-B Total Score									Statistical test: KW p-value
Italian students			Spanish students			British students			
Median (IQR)	Mean (SD)	Range	Median (IQR)	Mean (SD)	Range	Median (IQR)	Mean (SD)	Range	
101.5 (10)	101.8 (7.3)	79-126	95 (10)	95.1 (7.6)	66-115	95 (11)	95.3 (9.1)	73-137	100.89 p<0.001

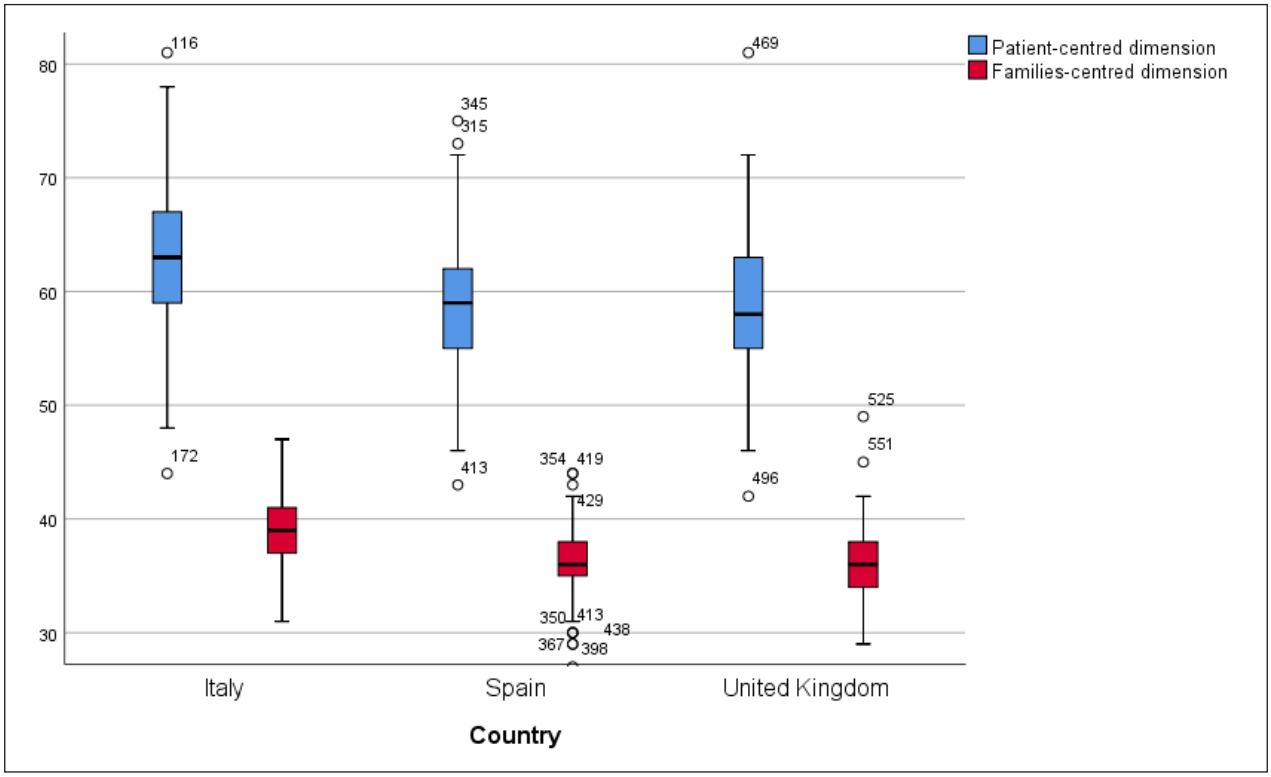

Figure 1. FATCOD-B dimensions in the three student groups

Among the three groups of students, the median total scores of FATCOD-B did not change as the Nursing Programme progressed, as shown in Table 3.

In Table 4, the 30 item scores of FATCOD-B scale reported by the three student groups are shown.

The care for dying people was assessed as a "worthwhile experience" by 95% of students in the 3 groups whereas regarding the statement "I would not want to care for a dying person" only 9% of the whole sample of students agreed and 20% of them were uncertain. 73% of participants disagreed with the item "The length of time required to give care to a dying person would frustrate me", with a statistically significant higher percentage among Spanish students (89%).

Both Italian and British students (about 40%) agreed with the sentence "I would be uncomfortable talking about impending death with the dying person", with a statistically significant lower percentage among Spanish students (30%). About 72% of Spanish and British students did not agree with the statement "It is difficult to form a close relationship with the dying person", compared to 51% of the Italian students (χ^2=30.613; p=0.000). A high percentage of Spanish students (92%) disagreed with the statement "The

Table 3. FATCOD-B total score of the three group students in different academic years

Total FATCOD-B	First year Median (IQR)	Second year Median (IQR)	Third year Median (IQR)	Fourth year Median (IQR)	Statistical Test: KW p-value
Country of students					
Italy	101 (9)	101 (11)	102 (7)	–	0.606 p=0.739
Spain	95 (8)	93 (11)	96 (11)	94 (9)	0.829 p=0.842
United Kingdom	95.5 (10)	93.5 (16)	95 (10)	–	1.567 p=0.457
Total	98 (11)	99 (12)	99 (11)	94 (9)	1.968 p=0.374

non-family caregivers should not be the one to talk about death with the dying person", compared to the other two groups (χ^2=66.349; p=0.000). About 40% of Italian students felt uncomfortable if entering the room where they "found a terminally ill person crying", compared to lower percentages in the other two groups (χ^2 =47.100; p=0.000). Moreover, at least half of Italian students stated that they would be upset "when the dying person … gave up hope of getting better", with a statistically significant difference compared to the Spanish and British students (χ^2=49.522; p=0.000).

Most students agreed that assistance should also be extended to the family of terminally ill patients ("Care should extend to the family of the dying person"), with a higher percentage among Italian students (95%), in a statistically significant way compared to the other two student groups (χ^2=18.903, p=0.001).

96% of the participants of the three groups reported that "Families need emotional support to accept the behavior changes of the dying person"; over 88% believed that "Family care should be maintained throughout the period of bereavement and its elaboration". Furthermore, at least 80% of students disagreed with the statement "Educating families about death and dying is not a non-family caregiver's responsibility".With a statistically significant difference, the Italian students believed that the family of a dying patient should be involved in caring for the his/her physical needs (90%) and should keep the dying patient's environment as normal as possible (95%), making the life that remains to be lived for their relative the best possible (97%).Without any statistically significant difference among the three student groups, 86% of students believed that staff assisting terminally ill patients should allow them to have "flexible visiting schedules" and at least 78% of students agreed that "The dying person and his or her family should be the in charge decision makers".

Among the 3 groups, the British students more frequently disagreed with the following statements, in a statistically significantly way: "I would hope the person I'm caring for dies when I am not present", "I am afraid to become friends with a dying person" and "I would feel like running away when the person actually died".

The Italian students showed to be more uncertain than students of the other two groups regarding the following statements: "When a patient asks, "Am I dying?" I think it is best to change the subject to something cheerful", "There are times when death is welcomed by the dying person", "As a patient nears death, the non-family caregiver should withdraw from his or her involvement with the patient", "It is beneficial for the dying person to verbalize his or her feelings". About 46% of our sample agreed with the statement that "Addiction to pain-relieving medications should not be a concern when dealing with a dying person", with a little higher percentage among British students. The Catholic religion was the most represented one in Italian (69.3%) and Spanish students (52.4%), whereas it was the second one among British students (26.7%), as shown in Table 5. The opinion of

Table 4. FATCOD-B scores in the three student groups

FATCOD-B Items	Italian students			Spanish students			British students			Total students			
	Disagree %	Uncertain %	Agree %	Disagree %	Uncertain %	Agree %	Disagree %	Uncertain %	Agree %	Disagree %	Uncertain %	Agree %	χ^2 p-*value*
Giving care to the dying person is a worthwhile experience	0.6	4.5	94.8	1.9	3.2	94.9	3.0	4.0	93.1	1.4	4	94.6	3.8 0.432
Death is not the worst thing that can happen to a person	29.4	25.8	44.8	21.5	23.4	55.1	32.7	23.8	43.6	27.8	24.8	47.5	6.367 0.173
I would be uncomfortable talking about impending death with the dying person	17.6	38.9	43.5	42.4	27.8	29.7	27.7	31.7	40.6	28.5	35	36.6	33.351 **0.000**
Caring for the patient's family should continue throughout the period of grief and bereavement	4.5	5.5	90.0	3.2	8.2	88.6	5.9	11.9	82.2	4.4	7.4	88.2	6.072 0.194
I would not want to care for a dying person	69.9	21.4	8.7	75.9	17.1	7.0	63.4	21.8	14.9	70.3	20.4	9.3	6.978 0.137
The non-family caregivers should not be the one to talk about death with the dying person	59.0	29.7	11.3	91.8	4.4	3.8	53.5	26.7	19.8	67.1	22.1	10.7	66.349 **0.000**
The length of time required to give care to a dying person would frustrate me	63.2	25.5	11.3	89.2	9.5	1.3	75.2	12.9	11.9	72.6	18.8	8.6	40.145 **0.000**
I would be upset when the dying person I was caring for gave up hope of getting better	16.1	31.3	52.6	41.8	30.4	27.8	38.6	29.7	31.7	27.2	30.8	42	49.522 **0.000**
It is difficult to form a close relationship with the dying person	51.3	25.5	23.2	72.8	19.0	8.2	72.3	16.8	10.9	61	22.1	16.9	30.613 **0.000**
There are times when death is welcomed by the dying person	5.8	27.4	66.8	5.1	4.4	90.5	5.9	16.8	77.2	5.6	19.2	75.2	37.247 **0.000**
When a patient asks, "Am I dying?" I think it is best to change the subject to something cheerful	61.3	27.7	11.0	83.5	13.3	3.2	59.4	18.8	21.8	67.1	22.1	10.7	39.258 **0.000**

FATCOD-B Items	Italian students			Spanish students			British students			Total students			
	Disagree %	Uncertain %	Agree %	Disagree %	Uncertain %	Agree %	Disagree %	Uncertain %	Agree %	Disagree %	Uncertain %	Agree %	χ^2 p-*value*
The family should be involved in the physical care (feeding, personal hygiene) of the dying person	3.2	6.8	90.0	4.4	18.4	77.2	6.9	25.7	67.3	4.2	13.4	82.4	32.586 **0.000**
I would hope the person I'm caring for dies when I am not present	43.5	41.0	15.5	41.1	43.0	15.8	57.4	22.8	19.8	45.3	38.3	16.3	12.851 **0.012**
I am afraid to become friends with a dying person	47.4	19.4	33.2	55.1	22.8	22.2	74.3	16.8	8.9	54.3	19.9	25.8	29.896 **0.000**
I would feel like running away when the person actually died	63.2	28.4	8.4	75.3	15.8	8.9	76.2	11.9	11.9	68.9	22	9.1	17.427 **0.002**
Families need emotional support to accept the behavior changes of the dying person	1.0	2.9	96.1	2.5	1.9	95.6	1.0	3.0	96.0	1.4	2.6	96	2.428 0.658
As a patient nears death, the non-family caregiver should withdraw from his or her involvement with the patient	49.4	25.2	25.5	93.0	1.3	5.7	88.1	6.9	5.0	68.4	15.3	16.3	115.742 **0.000**
Families should be concerned about helping their dying member make the best of his or her remaining life	0.6	1.9	97.4	3.2	7.0	89.9	5.0	9.9	85.1	2.1	4.7	93.1	21.786 **0.000**
The dying person should not be allowed to make decisions about his or her physical care	76.1	16.8	7.1	89.9	7.0	3.2	91.1	1.0	7.9	82.6	11.2	6.2	27.166 **0.000**
Families should maintain as normal an environment as possible for their dying member	1.0	4.5	94.5	4.4	20.3	75.3	5.9	14.9	79.2	2.8	10.7	86.5	40.079 **0.000**
It is beneficial for the dying person to verbalize his or her feelings	1.6	22.9	75.5	0.0	9.5	90.5	2.0	3.0	95.0	1.2	15.6	83.1	32.352 **0.000**
Care should extend to the family of the dying person	0.3	5.2	94.5	3,8	9.5	86.7	2.0	14.9	83.2	1.6	8.1	90.3	18.903 **0.001**

Caregivers should permit dying persons to have flexible visiting schedules	1.6	11.6	86.8	5.1	12.7	82.3	3.0	7.9	89.1	2.8	11.2	85.9	6.142 0.189
The dying person and his or her family should be the in-charge decision makers	6.1	17.7	76.1	3.8	13.3	82.9	5.0	21.8	73.3	5.3	17.2	77.5	4.694 0.320
Addiction to pain-relieving medication should not be a concern when dealing with a dying person	19.7	34.2	46.1	33.5	24.1	42.4	34.7	13.9	51.5	26.2	27.8	46	24.581 **0.000**
I would be uncomfortable if I entered the room of a terminally ill person and found him/her crying	26.8	32.9	40.3	48.7	25.3	25.9	60.4	22.8	16.8	38.8	29	32.2	47.100 **0.000**
Dying persons should be given honest answers about their condition	1.9	12.6	85.5	4.4	14.6	81.0	0.0	9.9	90.1	2.3	12.7	85.1	7.328 0.120
Educating families about death and dying is not a non-family caregiver's responsibility	80.6	8.1	11.3	82.9	7.6	9.5	73.3	14.9	11.9	80	9.1	10.9	5.586 0.232
Family members who stay close to a dying person often interfere with the professional's job with the patient	26.5	46.8	26.8	46.8	34.8	18.4	48.5	26.7	24.8	36	39.9	24.1	29.576 **0.000**
It is possible for non-family caregivers to help patients prepare for death	3.2	8.4	88.4	0.6	7.0	92.4	10.9	16.8	72.3	3.9	9.5	86.6	27.810 **0.000**

Legend Table 4: Bold data indicates significant level at $p < 0.05$.
Answers 'Strongly Disagree' and 'Disagree' were combined as 'Disagree'; Answers 'Strongly Agree' and 'Agree' were combined as 'Agree'.

Table 5. Personal and educational variables of students divided in three groups according to their country

Student variables	Italy n (%)	Spain n (%)	United Kingdom (%)	Statistical test: χ^2 p-value
RELIGION				
Catholic	205 (69.3)	77 (52.4)	27 (26.7)	
Jewish	1 (0.3)	0 (0)	2 (2)	$\chi2$=203.505 **p=0.000**
Protestant	4 (1.4)	1 (0.7)	11 (10.9)	
Muslim	14 (4.7)	3 (2)	5 (5)	
Atheist	54 (18.2)	48 (32.7)	0 (0)	
Other	18 (6.1)	18 (12.2)	56 (55.4)	
INFLUENCE OF RELIGIOUS BELIEFS ON THE ATTITUDE TOWARDS END-OF-LIFE CARE				
Strong	57 (19.9)	19 (12.9)	33 (32.7)	
Poor	97 (33.9)	36 (24.5)	29 (28.7)	$\chi2$=22.644 **p=0.000**
No influence	132 (46.2)	92 (62.6)	39 (38.6)	
PREVIOUS EXPERIENCES WITH PALLIATIVE CARE				
I have never received information on palliative care	112 (37.2)	64 (40.8)	61 (60.4)	
I have already taken a theoretical course on palliative care	109 (36.2)	43 (27.4)	9 (8.9)	
I have already taken a practical course (internship) on palliative care	20 (6.6)	5 (3.2)	5 (5)	$\chi2$=49.942 **p=0.000**
I have already taken a theoretical / practical course on palliative care	33 (11)	9 (5.7)	12 (11.9)	
I have never taken a specific course on palliative care, but I have received some elements of this discipline in other courses	27 (9)	36 (22.9)	14 (13.9)	
PREVIOUS EXPERIENCES WITH TERMINALLY ILL PATIENTS				
I have never experienced caring for terminally ill patients and their families	92 (30.8)	38 (24.5)	34 (33.7)	$\chi2$=2.921 p=0.232
I have already experienced caring for terminally ill patients and their families	207 (69.2)	117 (75.5)	67 (66.3)	
CURRENT PERSONAL EXPERIENCES OF MOURNING				
I am not experiencing any imminent grief	268 (88.7)	129 (84.9)	93 (92.1)	
I'm trying to prepare for the death of a loved one	25 (8.3)	18 (11.8)	6 (5.9)	$\chi2$=3.377 p=0.497
I'm experiencing grief for a loved one who is dying	9 (3)	5 (3.3)	2 (2)	
PREVIOUS PERSONAL EXPERIENCES OF MOURNING				
I have never experienced the death of loved person	109 (39.6)	39 (28.1)	41 (40.6)	$\chi2$=6.149 **p=0.046**
I have experienced the death of loved person	166 (60.4)	100 (71.9)	60 (59.4)	

Legend Table 5: bold data indicates significant level at $p < 0.05$.

participants regarding the influence of religious beliefs on attitudes towards death and dying was strongly perceived only by a small number of students with significant differences between the three groups (χ^2 =22.644, p=0.000).

The median total score of FATCOD-B did not show any significant difference according to religion and religious beliefs on death and dying (Table 6).

Regarding the participation in specific education on palliative care, 37.2% of Italian, 40.8% of Spanish

Table 6. Relationship between personal and educational variables of student groups and FATCOD-B scores

Student variables	Sample n (%)	FATCOD-B Total score Median (IQR)	Statistical Test: KW p-value
RELIGION			
Catholic	309 (54.2)	99 (11)	2.779 p=0.734
Jewish	3 (0.5)	100 (-)	
Protestant	16 (2.8)	99.5 (15)	
Muslim	22 (3.9)	100 (12)	
Atheist	102 (17.9)	98.5 (11)	
Other	92 (16.1)	97 (11)	
INFLUENCE OF RELIGIOUS BELIEFS ON THE ATTITUDE TOWARDS END-OF-LIFE CARE			
Strong	109 (19.1)	99 (11)	1.150 p=0.563
Poor	162 (28.4)	99 (11)	
No influence	263 (46.1)	98 (11)	
PREVIOUS EXPERIENCES WITH PALLIATIVE CARE			
I have never received information on palliative care	237 (41.6)	98 (11)	2.548 p=0.636
I have already taken a theoretical course on palliative care	161 (28.2)	99 (12)	
I have already taken a practical course (internship) on palliative care	30 (5.3)	99.5 (11)	
I have already taken a theoretical / practical course on palliative care	54 (9.5)	98.5 (11)	
I have never taken a specific course on palliative care, but I have received some elements of this discipline in other courses	77 (13.5)	97 (12)	
PREVIOUS EXPERIENCES WITH TERMINAL ILL PATIENTS			
I have never experienced caring for terminally ill patients and their families	164 (28.8)	99 (10)	1.032 p=0.310
I have already experienced caring for terminally ill patients and their families	391 (68.6)	98 (11)	
CURRENT PERSONAL EXPERIENCES OF MOURNING			
I am not experiencing any imminent grief	491 (86.1)	99 (11)	1.739 p=0.419
I'm trying to prepare for the death of a loved one	49 (8.6)	101 (8)	
I'm experiencing the grief for a loved one who is dying	16 (2.8)	98 (14)	
PREVIOUS PERSONAL EXPERIENCES OF MOURNING			
I have never experienced the death of loved person	189 (33.2)	99 (13)	2.238 p=0.135
I have experienced the death of loved person	326 (57.4)	98 (10)	

and 60.4% of British students reported not having received any training (χ^2=49.942, p=0.000).

As show in Table 6, the median total score of FATCOD-B is 98 in students who had never received information on palliative care and 98.5 in those who had followed a theoretical and practical course on palliative care. With no significant differences between the three groups, 69.2% of Italian, 75.5% of Spanish and 66.3% of British students reported having already previously experienced care in terminally ill patients. Nevertheless, the median value of FATCOD-B did not differ depending on the experience reported above (median = 98 vs 99, p=0.310). Finally, current or past experiences of bereavement did not change the median values of FATCOD-B.

Discussion

The aims of the present study were to explore nursing students' attitude toward care of dying patients in three different European educational contexts, and the factors that can condition it. In particular, if students' attitudes improve as the nursing course progresses was investigated. The attitudes of our nursing students towards care for dying patients, measured through a worldwide validated scale (FATCOD-B), settled at an intermediate value of the scale, albeit slightly higher among Italians. In particular, the total score of FATCOD-B reported by the nursing students of our sample showed poorer positive attitudes towards death in comparison with that reported by Swiss students enrolled at 1st and 3rd year of Nursing Programme (63), Greek students attending the 2nd, 3rd and 4th academic year of Nursing Programme (52), Chinese students at 2nd and 3rd year of Nursing Programme (64) and by nursing students in the United States (41) and Sweden (36,37). On the other hand, the attitudes toward caring for dying patients showed by our sample were similar to those observed among Turkish first-year undergraduate nursing students (65), Palestian fourth-year nursing students (4), Indian nursing students attending a 4-year undergraduate course and a 2-year master's course in a private Nursing School in Kerala (44). Another study implemented among Italian students attending the second year of Nursing Programme reported a higher mean score at FATCOD scale than that reported in our Italian nursing student group (66).

The median total FATCOD-B scores did not statistically significantly change in students with different age, gender, year of study, religious beliefs, nursing education on palliative care, previous experiences of dying patient care and personal grieving. Students' attitudes towards caring for dying patients did not progress from beginning to end of nursing education at all three Universities. In contrast with our findings, another study reported that attitudes become more positive at the final year of the nursing course (37). Dimoula et al. stated that progress in academic years seems to play a role in preparing students, particularly in relation to the learning of theoretical knowledge (52). Nearly all students of our sample considered the care of terminally ill patients a useful training experience ("Giving care to the dying person is a worthwhile experience"), in line with current literature (4,7,52,54).

The most negative attitudes highlighted in all three groups of our sample were associated with the following FATCOD-B statements: "I would be uncomfortable talking about impending death with the dying person", "I would be uncomfortable if I entered the room of a terminally ill person and found him/her crying", "I would be upset when the dying person I was caring for gave up hope of getting better". About 30% of our nursing students agreed with or were uncertain about the FATCOD-B sentence "I would not want to care for a dying person". These responses suggest a lack of comfort in dealing with dying patients, despite a strong expression of interest in palliative care. This observation is consistent with the literature showing that nursing students felt uncomfortable and unprepared to deal with dying patients (4,43). In a recent study, nursing and medical students at the end of their undergraduate course showed an interest in improving knowledge regarding palliative care, but they felt they lacked the personal skills and abilities required to handle such situations (67). Most participants agreed with the statement "Nursing care should extend to the family of the dying person", in line with another study implemented among Palestinian nursing students (4). Almost all our students considered psychological support and assistance to the family of dying patient one of the fundamental ethical aspects of caring, because it is necessary for preparing all family members for the death of the patient.

In the three student groups we highlighted different positive attitudes, probably depending on different cultural and social backgrounds: the Italian students believed necessary the active involvement of the family in the care of the dying patient; the Spanish students deemed that the staff who assists a dying patient should speak of death with him/her; the British students were less afraid than others of approaching a dying person.

Finally, more than half of the students showed concern or indecision about the risk of addiction to pain medications in end-of-life patients, suggesting a lack of knowledge on this topic, although the EAPC Guide for Palliative Nursing Education indicates that

knowledge of this risk should already be possessed by undergraduate nursing students at level A (58).

In line with most studies, no significant differences were found in attitude towards care for dying people between male and female students, confirming that gender is not a significant predictor for attitude towards the care of dying patients (4,55,56,62,66,68). In our study, the age of the participants was not a predictor of positive attitudes towards care for terminally ill people differently from other studies which investigated this topic in groups of nurses (53) and nursing students (52,54). In all the three student groups, we did not find any relationship between FATCOD-B scores and religious beliefs in line with other studies (7,34) but in contrast to a recent study conducted in 4 medical Universities in China (6).

Although the three student groups statistically significantly differed in previously received information on palliative care (37% of Italians, 41% of Spanish and 60% of British students had received information), no relationship between previous training programs and attitudes towards care for dying people was highlighted. Consistently with our findings, other studies showed no relationship between attitudes and previous experiences in caring for dying patients and their relatives (4,34), although data on this issue are controversial. In fact, another study reported that previous frequent contacts with terminally ill patients had favored more positive attitudes towards care for dying people (3).

The results of the present study suggest the need for a change in the nursing educational programs, with a greater inclusion of palliative care training experiences, because students previously involved in educational programs focused on palliative care develop more positive attitudes towards dying patients, as suggested by most studies (36,38,65). Moreover, nursing education should include strategies for coping with the negative emotions associated with dealing with dying people and the stress conditions triggered by coping with death (67).

As Jeffers declares, students nursing is expected to achieve proficiency in caring for dying patients as part of their preparation (38). A systematic review and qualitative meta-synthesis found that a lack of ability in performing nursing skills and communication with dying patients by new graduate nurses negatively affects their ability to maintain intimate relationships with patients and their family members, hindering the delivery of good care (60). Zheng et al. (60) suggested that education on death issues should be offered as a core part of undergraduate nursing education programs. Very recent descriptive research involving an online survey of nursing experts and consultation with national representatives found considerable variation across European countries in basic nursing education: in 14 countries (56%) palliative care is not mandatory education in undergraduate nursing course (69). In Italy, Mastroianni et al., analyzed the extent and characteristics of palliative care education within all nursing degree curricula in the University web pages, reporting that sixty percent of the curricula described formal education in palliative care heterogeneously distributed across different courses and with few mandatory teaching hours. Data on clinical training suggested that education was essentially theoretical, with little integration between theory and practice (70). The growing need for palliative care in different settings corresponds to an increased focus on palliative care education at undergraduate nursing programme. A respectful and appropriate way of providing end-of-life care for patients can promote the maintenance of dignity (71), even in the experience of death, for both the patient and the family (38,70). These "privileged" experiences can lead nurses to existential personal growth and job satisfaction (72).

Conclusions

This study has some relevant limitations. In particular, the non-homogeneous response rate in the three groups of students, with low participation in British student group, can limit the generalizability of our findings. Furthermore, the different palliative care training implemented in the three curricula may have influenced the differences observed in the responses to the questionnaire. Finally, the cross-sectional design of this study does not permit us to prospectively explore the development of attitudes as the Nursing Programme academic years progress. Nevertheless, the study has the advantage of having collected a large

sample of nursing students from three different countries, comparing palliative care education across different nursing programs, which allows us to improve end-of-life nursing education. This study also has the advantage of having employed a well-developed questionnaire, validated in the languages of the three groups of students.

Based on the results of this study, we highlight that nursing students in three different countries show an intermediate level of attitudes towards end-of-life care and do not feel fully comfortable and prepared in caring for dying patients. No improvement in attitude towards the care for dying people has been observed as the course progresses across all three Nursing Programmes. These data suggest the need to improve palliative care education to more appropriately prepare nursing students for emotionally engaging end-of-life care. Nurses can meet dying patients in all clinical and care settings. A growing number of people needs assistance in end-of-life conditions, requiring nurses adequately trained in caring for them and their families. The development of adequate professional skills requires positive caring attitudes towards end of life in order to feel competent in dealing with dying patients and appropriately support them and, at the same time, their families.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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