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ORIGINAL ARTICLE

Improving quality of end-of-life education: Results of a composite educational intervention on nursing students' attitudes toward care of dying patients

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Abstract. *Background and aim:* The literature highlights a widespread negative attitude of nurses toward end of life that is often expressed with the fear of facing death or talking about it, and with the tendency to avoid persons under care and their caregivers. This situation seems to take root already in the training period. The aim of this quality improvement project was to evaluate the effects of a composite end-of-life educational intervention (EoLei) at improving nursing students' attitude toward care of dying patients. *Methods:* 109 nursing students completed a 3-day EoLei, consisting of two multi-professional seminars, with a training caregiver present, followed by viewing a film with an associated activity of reflection and lastly a simulation activity in small groups. Data were collected before and after the EoLei, using the Italian version of Frommelt Attitudes Toward the Care of Dying Form B (FACTOD-B) scale. Two open questions were also administered at the end of the educational activity to collect students' feedback. *Results:* After the educational program, the mean total score of the FACTOD-B increases statistically significantly (M=120.33±9.4 vs M=122.08±9.6; p=0.018), suggesting a possible better awareness of students towards the care of dying patients and their families. Four themes emerged from the qualitative analysis: knowledge, awareness, relationship with death and a helping relationship. *Conclusions:* This study highlighted how a short training experience, consisting of a combination of educational methods, may have the potential to positively sensitize nursing students' attitudes towards end-of-life care. (www.actabiomedica.it)

Key words: end-of-life education, attitudes toward care of dying patients, nursing students, simulation, palliative care, nursing education

Introduction

The World Health Organization has indicated the sphere of palliative care as a fundamental part of the healthcare responses that should be able to be provided to people afflicted by chronic or oncological diseases (1). End-of-life care consists of the care provided in the last part of life, once medical treatments have been stopped, and that concerns the physical, psychic, social and spiritual sphere of both the person under care and their family (2). Potentially lethal or disabling diseases are, currently, a considerable burden for society but, also, for health systems. It has been calculated that in the future this burden is destined to increase, it is in fact thought that in 2060 47% of deaths are going to concern people with conditions of severe suffering, showing a marked growth compared to 2016. This increase, to a greater extent, is going to involve countries with a low or medium income, people aged over 70 and diseases such as oncological diseases but, above all, dementias (3). In this perspective, palliative and end-of-life care has been indicated as one of the basic human rights in all care settings (4). Death is a natural process that is part of the normal development of human existence. However, it is a harbinger of questions about the very meaning of life and, in a clinical and care setting, also about the quality and quantity of appropriate care (5). Often the nurses themselves play a key role in end-of-life care, vis-à-vis both the person and their family (6). However, the literature highlights a widespread negative attitude toward end of life and care for the person and their family members, which is often expressed with the fear of facing death or talking about it and with the tendency to avoid persons under care and their caregivers. This situation seems to take root already in the training period (7). An attitude towards caring for a dying person and their family may be expressed in different ways: a negative attitude is expressed with the fear of facing death and therefore also with the refusal to talk or even think about it. As a result, nurses who have to experience it would have difficulty in relating to the person under care and their dear ones. It seems that this type of attitude starts to develop and takes root during the training years. The consequence of this type of attitude concerns the quality of care, poor recognition of the needs of the dying person and therefore an ineffective response to them. On the other hand, a positive attitude concerns the fact of accepting this type of path and is characterised by greater listening and more respect for the choices of the person under care and for support for their family. Acceptance may be neutral (therefore with neither fear nor desire for death), may be characterised by the expectation of a better life, or lastly may consider death as a way of escaping from the current condition of suffering (8). The literature records how undergraduate nursing students feel unprepared in caring for a dying person and for their family (5). Specifically, students describe feeling afraid and concern in seeing a dying or deceased person, fear of not being able to support the person under care or their family and apprehension for the fact of having, at the same time, to handle their own emotions and care for another person (5,9). Various studies have been conducted on the attitude of nursing students to end-of-life care, though the results are not always concordant. Among these, studies conducted in the United Kingdom (10) and in Sweden (9) have described a positive attitude of the students involved to care for the dying person, which tends to improve with training. An Iranian study, instead, found a neutral or negative attitude, demonstrating that it can be improved by training in a statistically significant manner (11). Studies conducted in Indonesia and Jordan describe a mostly negative attitude, especially among younger students, which improves in the more adult ones, thus demonstrating a positive correlation between attitude and age (12,13). Studies conducted in previous years had found a positive attitude to care for dying persons: for example, a study conducted in Turkey that had involved third-year nursing students recorded a moderately positive attitude and highlighted how the experience positively affected the attitude to death (14). A contemporary study conducted in Italy had described a positive attitude that did not seem to be affected by personal experience with death nor by gender (15). A study carried out in three different European educational settings (Italy, Spain and United Kingdom) found that the attitudes of nursing students toward care for dying patients showed no sign of progress in a positive sense from the first year to the last year of the course of study (16). More recently, though, Hingley in 2023 carried out a study in Australia, that involved 90 obstetrics and nursing students in high-fidelity simulations regarding communication in end-of-life care (17). The results indicated that, on the whole, the attitude toward care for a dying person improved between pre- and post-testing, aside from any previous experiences of contact with death had in either a personal or professional setting (17). Several studies have shown how the emotions of students and their personal experiences strongly impact their way of handling end-of-life situations (18). In short, the results of the various studies give a very diversified picture of the knowledge and attitude of nursing students in relation to end-of-life care. A positive attitude of the student, and therefore of the future nurse, toward caring for people at the end of their life is extremely important for the performance of their duties and proves to be affected by the training they received and by their clinical experiences (19). In particular, the literature suggests how training on end-of-life themes is one of the factors that most significantly affects the attitude to this type of care by nurses (5). In addition, training for nurses should be linked to clinical expertise, not then remaining confined to the mere knowledge of theoretical notions (20). Inadequate training in relation to end-of-life themes will then have a negative effect not only on their attitude to end-of-life care and on the quality of care, but also on the stress levels of the future nurses (8,21). It may not always be easy to organise a clinical experience for all nursing students in a setting specifically dedicated to end-of-life care, because of logistical reasons and the availability of specific care settings. The literature for example recognises simulation as a valid substitute for clinical experience (22). The great variability in the results of studies conducted in different countries suggests how different education influences different attitudes of students towards death and dying. Within this panorama, the aim of this project was to implement and evaluate the effects of a composite end-of-life educational intervention (EoLei) at improving nursing students' attitude toward care of dying patients.

Participants and Methods

Design

This was a quality improvement project modelled prospective single arm pre- and post-study following Rogers' (2003) "Diffusion of Innovations" theoretical framework (23).

Setting and participants

A convenience sample of 109 third year nursing students of the Nursing Programme at the University of Modena and Reggio Emilia (Italy).

End-of-life educational intervention (EoLei)

The composite educational intervention was designed by a group of nurse instructors who were experts in palliative care, in accordance with the recommendations of the Ministry and of EAPC for teaching and learning about palliative care (24,25). The EoLei was structured over three days for a total of 12 hours. The first and second meeting took place in the form of a multi-professional seminar. The first seminar was on the topic of palliative care and the network of services by a nurse of the hospice and home palliative care by a palliative physician, a spiritual assistant, a physiotherapist and a voluntary worker involved in this context. On the second day the focus was on the person under care and their family on the topics of "terminal care, death, dying, and bereavement". In this regard, a psychologist of the local palliative care network, general practitioners and an instructor caregiver took part, all sharing real-life practice experiences. To close the meeting the students were given the opportunity to watch a film documenting the experience of a dying person, followed by an activity of reflection conducted by trained personnel. 106 students participated in the viewing of the film. The documentary "Intorno alle ultime cose" was proposed, first broadcast in 2008 and made available on the Raiplay platform. The entire documentary has a duration of about 49 minutes; however, to make it more usable from the classroom, a part of it was eliminated, arriving at a duration of 31 minutes. The documentary presents two interviews with people who, affected by terminal illness, have consciously, but painfully chosen their end-of-life paths; subsequently, the testimony of Dr. Frank Ostaseski, founder of the Zen Hospice of San Francisco, is reported. The choice of the working group was to present the point of view of the people assisted, through only the first of the two interviews, and that of the palliative doctor; the chosen testimony seemed particularly appropriate both because it presented the context of the hospice, which only very few of the participating students had been able to experience directly, and because it was enriched by the wife's point of view collected during the illness and after the death. Immediately after watching the film, students were asked to reflect on the documentary and choose a word that was particularly meaningful to them at that moment; they then had to write it down by accessing the Mentimeter app. Of the 106 students present, 102 responded. The most recurring words were, in decreasing order, Relationship, Serenity, Mystery, Accompany/Accompaniment, Dying alive, Relief, Freedom/Liberation. In the third meeting, the students were divided into small groups and the simulation-based learning was facilitated by two tutors of the degree course who were experts in the method. The case presented concerned a person of 17 years of age with a diagnosis of osteosarcoma, at the end of their life at their home. After preparation with "stimulus exercises", the students played the roles of the home care nurse, nursing student assisted by a nurse and the brother/sister of the person under care with role play that is a common feature of simulation (26,27). The "stimulus exercise" was proposed to the group in the briefing phase required by the simulation methodology. The students, divided into small groups, were asked to refer to a loss event that characterized their life, specifying that it did not necessarily have to be the mourning of a loved one and therefore implying that it could also refer to the loss of a person due to distance, or the loss of a pet or other. Each person was then asked to share in the group their emotional or behavioral reactions to this loss, feeling free to choose which words to use and to what level of depth to go in the description. The considerations that emerged in this first phase, in addition to preparing the students for the topic addressed in the simulation, represented points of connection with the reflections that the students shared during the debriefing. The simulation was conducted in a furnished setting so as to create a home setting with the aid of a high-fidelity dummy simulating the person under care at the end of their life. An activity of reflection was conducted within the framework of the debriefing.

Data collection and instruments

To measure the effects of EoLei on the attitude of care of a dying person, each student was asked to fill out the Frommelt Attitudes Toward the Care of Dying Form B (FATCOD-B) in paper format, both at the beginning of the first seminar and immediately at the end of the simulation debriefing.

The Italian version of the FACTOD-B validated by Mastroianni et al. (2015) and further improved by Loera et al. (2018) was used (28,29). FACTOD-B is a valid, reliable assessment instrument designed for healthcare students involved in training on a PC (30). It is composed of 30 items measuring the attitude to care for dying patients by means of a Likert scale from 1 to 5. Items 1, 2, 4, 10, 12, 16, 18, 20, 21, 22, 23, 24, 25, 27, 30 were positively formulated and a score of 1 corresponds to "strongly disagree", a score of 5 corresponds to "strongly agree"; items 3, 5, 6, 7, 8, 9, 11, 13, 14, 15, 17, 19, 26, 28, 29 are negative and the scores are reversed. The score then varies from 30 to 150, a higher score indicates a more positive attitude toward end-of-life care (31). Studies to validate the scale identified two dimensions: the dimension of the patient comprising items 1-3, 5-11, 13-15, 17, 26, 29 and the dimension of the family comprising the remaining items. The Italian version of the scale showed a Cronbach's α of 0.699 and an Item–total correlation ranging from 0.03 to 0.39 (15).

In order to collect the perceptions of the students, at the end of the training they were asked to reply to the following two open-ended questions:

1. What added value did this training give you?
2. Do you have any suggestions for conducting the training?

Data analysis

The quantitative data were analysed using SPSS version 29 (SPSS Inc., Chicago, IL, USA). Descriptive statistical analyses were carried out and Student's t was calculated to compare the pre and post EoLei mean scores. A p-value less than 0.05 was considered statistically significant. Cronbach's alpha was used to measure the internal consistency of the FATCOD-B. The qualitative data were analysed according to the thematic analysis method (32). Repeated reading of the students' answers to the open questions allowed, after the identification of the initial codes, the identification of sub-themes and themes.

Ethical considerations

This is an educational innovation project to improve the quality of training for future nurses, which was approved by the Nursing Degree Course Council.

This is a formally new teaching activity inserted in the curriculum, it was not a research study, so approval from the ethics committee was not necessary. All students received information about the purpose of this quality improvement project formally included in the training curriculum. In particular, the students were informed about the voluntary nature of their participation in the data collection via the FACTOD-B questionnaire and open questions. The completion of the questionnaire by the students corresponded to their free intention to participate in the data collection. There was no evidence of any form of coercion or undue influence on students regarding participation. Participants were reassured of the confidentiality and anonymity of the data collected.

Results

Participants characteristics

The entire sample took part in the EoLei and 94% (n=102) filled in the data collection instrument, both before and after the training. The mean age of the participants was 23±3.5 SD years old (range 21-47), with the majority of the participants female (79.4%).

Quantitative findings

The internal consistency of the FATCOD-B scale proved to be good, with a Cronbach's α value equal to 0.824. The post-intervention FATCOD-B's mean total score (M=122.08±9.6) turned out to be higher than the pre score (M=120.33±9.4) with a statistically significant difference (p=0.018). Mean scores for individual FATCOD-B items are presented in Table 1.

The item with the highest value in the pre-test was "Families need emotional support for behaviour changes of their loved one", with a score that remained constant in the second survey. In the post-EoLei survey, items numbered 12, 20 and 22, all with a mean of 4.90, obtained the highest value. Furthermore, statistically significant differences were obtained, between the pre- and post-educational intervention, in items numbered 1, 8, 23, 25 and 29. An analysis of the single dimensions of the scale, as shown in Table 2, reveals that both dimensions increase in the post EoLei survey, but only the family dimension obtained a statistically significant increase in the mean value (pre-test M=63.5±6.7 vs post-test M=65.3±4.2, p=0.009).

Qualitative findings

Of the 102 participants, 49 students replied to the first question "What added value did this training give you?". The qualitative data analysis revealed four key themes with the related subthemes, as shown in Figure 1.

Theme 1. Knowledge

High-quality and therefore hopefully effective care cannot be separated from theoretical knowledge, at the base of expertise. The theme of knowledge of palliative care emerged spontaneously from the participants as a learning goal of the EoLei, expressed in the following subthemes.

A little known theme

The attitude to palliative care has its starting point in knowledge of the specific field, which some participants described as lacking. It is not then a sphere in which the student feels completely unprepared, but the perception emerges of poorly detailed superficial training:

> "*More knowledge of the topic, which is not treated in much detail during the three years*" (S42).

Knowledge as an agent of change

From the participants' answers it emerges how the educational intervention gave them a new perspective on end-of-life care:

> "*…having had the opportunity to listen to people who actually work in this world, I changed my mind about what I thought about it*" (S4).

Besides a change in position in relation to palliative care (which becomes "less distant", that lets you change your mind and grow), a participant brings out how this new concept can then tomorrow be shared

Table 1. Pre-test and post-test FACTOD-B scores.

FACTOD-B Items	FACTOD-B Dimensions	Pre-test M±SD	Post-test M±SD	p-value
1. Giving care to the dying patient is a worthwhile experience for me	P	4.59±0.6	4.88±0.5	<0.001*
2. Death is not the worst thing that can happen to a dying patient	P	3.75±1.3	3.92±1.3	0.186
3. I would be uncomfortable talking about death with a dying patient	P	2.70±1.1	2.73±1.2	0.759
4. Caring for the dying patient's family should continue throughout the period of grief and bereavement	F	4.72±0.6	4.82±0.6	0.160
5. I would not want to care for a dying patient	P	3.86±1.2	3.89±1.2	0.771
6. If I will take care of a dying patient, I would not be the one who talks about death with him/her	P	3.41±1.1	3.55±1.1	0.148
7. The length of time required for giving care to a dying patient would frustrate me	P	3.95±1.2	4.03±1.2	0.537
8. I would feel frustrated if the dying patient I was caring for gave up hope of getting better	P	2.54±1.1	2.95±1.3	0.001*
9. I feel it is difficult to form a close relationship with the dying patient	P	3.71±1	3.76±1.1	0.631
10. There are times when the dying patient welcomes death	P	4.25±0.8	4.30±0.8	0.488
11. When a patient asks, "Am I dying?" I think it is best to change the subject to something cheerful	P	4.19±1	4.35±1	0.113
12. Also, the family should be involved in the physical care of the dying patient	F	4.86±0.4	4.90±0.5	0.396
13. I would hope the dying patient I'm caring for dies when I am not present	P	3.82±1.2	3.78±1.2	0.728
14. I am afraid to become friends with a dying patient	P	3.45±1.3	3.45±1.4	1.000
15. I would feel like running away when the patient actually died	P	4.05±1.2	3.97±1.1	0.495
16. Families need emotional support for behavior changes of their loved one	F	4.87±0.3	4.87±0.4	1.000
17. I would not withdraw from a dying patient who nears death	P	1.87±1.0	1.76±0.9	0.397
18. Families should be concerned about helping their loved one make the best of his/her remaining life	F	4.70±0.5	4.61±0.7	0.198
19. The dying patient should not be allowed to make decisions about his/her physical care	F	4.78±0.7	4.62±1	0.104
20. The relatives should maintain as normal and familiar the environment as possible for their loved one	F	4.83±0.4	4.90±0.3	0.195
21. It is very good for the dying patient to verbalize his/her feelings	F	4.77±0.5	4.81±0.5	0.574
22. Care should extend to the family of the dying patient	F	4.82±0.5	4.90±0.3	0.072
23. Nonfamily caregivers should permit dying patient to have flexible visiting schedules	F	4.56±0.7	4.79±0.5	0.004*
24. The dying patient and his/her family should be the in-charge decision makers	F	4.37±0.8	4.48±0.8	0.320
25. Addiction to pain-relieving medication should not be a problem when dealing with a dying patient	F	2.72±1.3	3.34±1.4	<0.001*

FACTOD-B Items	FACTOD-B Dimensions	Pre-test M±SD	Post-test M±SD	p-value
26. I would be uncomfortable if I entered the room of the dying patient and found him/her crying	P	3.25±1.2	3.19±1.2	0.657
27. The dying patient should be given truthful answers about his/her condition	F	4.67±0.7	4.72±0.6	0.486
28. Educating families about death and dying is not a nonfamily caregiver's responsibility	F	4.70±0.7	4.66±0.8	0.707
29. The relatives who stay close to the dying patient often interfere with the nonfamily caregivers' job	P	2.69±1.2	2.28±1.1	0.002*
30. It is possible for nonfamily caregivers to help the dying patient prepare for death	F	4.75±0.5	4.84±0.5	0.106
FACTOD-B Total score		120.33±9.4	122.08±9.6	0.018*

Abbreviations: P=Patient, F=Family, M=mean, SD=Standard Deviation, *p<0.05.

Table 2. Pre-test and post-test FACTOD-B Dimensions scores.

FACTOD-B Dimensions	Pre-test M±DS	Post-test M±DS	p-value
Dimension of the patient	55.8±8.1	56.7±8.1	0.157
Dimension of the family	63.5±6.7	65.3±4.2	0.009*

Abbreviations: M=mean, SD=Standard Deviation, *p<0.05.

with future colleagues, bringing out the idea by which students, when trained and aware of their potential, can act as agents of change also in already consolidated work settings:

> "*…having raised the awareness of we students of this topic I hope it can make a contribution in the future when we will be working and we will be dealing first-hand with people at the end of their life*" (S25).

Sharing reflections

The characteristics of the EoLei with multi-professional seminars, with talks by different speakers, which then required personal elaboration and individual learning, and in another one of learning in small groups, sharing the simulation experience with other colleagues, brought out the subtheme of sharing the reflections that was interpreted as an opportunity for debate and rethinking the experiences.

> "*…it gave me the opportunity to discuss it with other students and to be able to express my thoughts on the topic*" (S15).

Theme 2. Awareness

The second theme that emerged is the awareness of oneself, of fundamental importance for nurses in palliative care: the awareness of what nurses consider important, their values and principles, will allow them to interact with others (person under care, family members and others) empathically and really suspending judgement. In relation to this theme the participants brought out two subthemes: the first one concerns the fact of working on yourself to be "ready" to care for a person in palliative care, having worked toward true self-awareness, in particular with respect to the theme of death.

Preparing for palliative care

> "*…giving me the opportunity to tackle and get ready for such a difficult theme as death, which of my own accord I would never have tackled probably until the inevitable moment…*" (S18)

Recognising your limits

The second subtheme instead concerns a particular aspect of self-awareness, that is the fact of reflecting on your limits, also with a view to improvement.

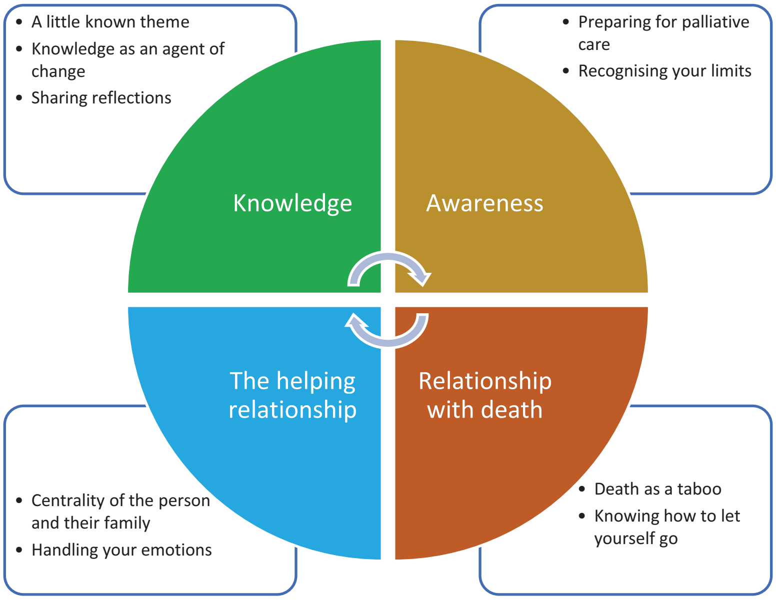

Figure 1. Themes with the related subthemes.

> "*It gave me more awareness of myself concerning my limits and my strengths and let me understand the points on which I have to work more*" (S24).

Theme 3. Relationship with death

It often happens that the theme of death is exorcised through gestures or verbal locutions aimed at not naming it and, in any case, making it as less visible as possible. Also in healthcare settings, in which disease is often accompanied by death, professionals and students sometimes reveal the difficulty in talking about it and accepting it, with various consequences on the plane of the relationship and the choice of treatment. With respect to this theme, the participants identified two subthemes, the first of which tackled the concept of death as a "taboo".

Death as a taboo

A positive interpretation has been given of the fact that during the training not only was this theme talked about, but collective reflection was also encouraged on such an emotionally difficult topic:

> "*Talking about and tackling a theme, that many people don't want to mention*" (S45).

Knowing how to let yourself go

The answers given by the participants reveal an interpretation of the phenomenon of death as something natural and inexorably connected to life. Palliative care, in fact, is proposed to accompany the person on their life path toward death, without either rushing or postponing it, and to protect the individual's dignity right to the end: these concepts are found in the narratives of the participants:

> "*being able to provide support till death in the most dignified manner possible*" (S1);
> "*… it further confirmed for me the idea that death is a normal and physiological process, of which we are not to be afraid…*" (S13).

Theme 4. The helping relationship

The fourth theme that emerged is the helping relationship, both with the person under care and related to other people who are important to that person.

Centrality of the person and their family

The answers given by the participants have revealed that this helping relationship features trust and cooperation, but also that at the heart of care there is not only the person under care but also those who are important for them:

> "*It gave me an even greater realisation of the importance of the caregiver's support even after the death of our patient*" (S7)
> "*…how important it is to establish a relationship of trust and cooperation with the user but also with the family…*" (S19).

Handling your emotions

The words of the participants have shown how training on end-of-life care emotionally affected them; this involvement highlighted how important it is for the professional to manage their emotions and empathy. This ability is not always innate, on the contrary it should be exercised within a process of personal growth:

> "*…I put my emotions to the test, I had significant personal growth*" (S3).

Analysing the 38 replies to the second question "Do you have any suggestions for conducting the training?" gave the following 4 suggestions for improving the EoLei:

1. Repeat the event more frequently
   In this regard, the participants suggested repeating experiences of this kind several times during the course of studies, with different methods in relation to the size of the groups and the academic year. In addition, the opportunity was remarked upon of tackling the theme of palliative care also across the tuition and not just in a specifically designated seminar:

   "*Repeat it several times during the year, as of the second year*" (S3);
   "*Run this type of workshop as of the first year of the course*" (S6).

2. Increase discussions with colleagues
   Some of the participants suggested increasing the amount of time designated for experiences and activities within the organisation of the EoLei, also to be able to increase discussion among peers:

   "*Do more work in groups and have the opportunity of more discussions with colleagues*" (S4);
   "*It would be good to do more work in groups during this initiative*" (S25).

3. Study the specific theme of palliative care
   Some of the participants remained with the need, stated in the form of a suggestion, to further study specific aspects tied to technical expertise in the role of the nurse in palliative care:

   "*I would have preferred knowing something more specific about palliative care*" (S15);
   "*Study the sphere of palliative care and the function of the nurse in greater detail*" (S16);
   "*Have more examples/mini cases (e.g., use of pain relief therapy/opioids)*" (S34).

4. Tackle the themes related to helping relationships also in different settings to that of palliative care
   As much as the helping relationship is prevalent in the context of palliative care, it is certainly important across the nursing profession. In this connection, some participants suggested tackling the helping relationship theme also in other contexts, through initiatives organised with the method of the EoLei:

   "*Do others focussed on other relationship settings*" (S33)
   "*I thought I could have more information about how to relate in the various settings…*" (S50).

Discussion

This quality improvement project evaluated the effects of a composite end-of-life educational intervention for improving nursing students' attitudes toward care of dying patients. The increase in the FACTOD-B scores of our sample indicate a more positive attitude towards providing care for patients who are dying and their families as a result of the EoLei. The EoLei implemented a combination of educational methods with a succession of multi-professional seminars with the key players in palliative care, including an instructor caregiver, film, reflection and lastly simulation activities. In accordance with our results, recent research has shown that structured education integrating theory with practice can encourage a positive attitude in students towards end of life, with statistically significant differences between pre- and post-intervention when measured with the FATCOD-B scale (8,9,19,33). However, as shown by the analysis of the subgroups of a recent meta-analysis, the mean score of the attitudes to end of life varied according to geographical region and the differences seem to be due to both contextual and cultural factors (8). Comparing our scores of FACTOD-B with those of the European context (M=107.26), the scores following the EoLei turn out to be higher. In addition, the mean total score of the scale, in our students, turns out to be higher, both in the pre-test and in the post-test, both in the scores obtained in an Italian multi-centre study (M=115.3) (5) and in those of a previous study conducted in our own university course on third-year students (M=102) (16). The scenario adopted in the EoLei allowed students to concretely experiment in a simulated context through the use of a high-fidelity simulator (patient at the end of life) and role players (nurse, student nurse and relative). If the effectiveness and satisfaction of simulation in nursing education is well consolidated (34,35), the evidence relating to its application in learning caring at the end of life was few, but promising. The simulation, in which students are instructed to care for a dying patient and their family, accompanied by a final reflection was evaluated as an effective method in developing expertise and skills in this field, representing a context in which students can safely put themselves to the test (18,33). Our results are then consistent with those of the literature that indicates how a good preparation on end-of-life themes, also including a realistic simulation, is peremptory for the purposes of adequately preparing future nurses for care in this context (18). In our project, the items that obtained the highest scores chiefly refer to the family dimension. The centrality of the family in end-of-life care also emerges from the qualitative data, which highlight the importance of the helping relationship understood as active involvement, support, trust and cooperation. The involvement of family members is an integral part of palliative care that by definition is finalised at optimising the quality of life not only of patients, but also of their family members (1). Setting up family caregiver support, assessing need and establishing a plan of care, preparing for death, and bereavement support are interventions contemplated by the specific guidelines for the psychosocial and bereavement support of caregivers for patients under palliative care (36), requiring knowledge and communicative, relational and planning skills. In our study, the educational intervention improved the attitude of students to family members in palliative care, probably also thanks to the valuable involvement of an instructor caregiver, in other words someone with end-of-life caregiving experience who has acquired specific teaching skills (37-39). According to the students, the ability to handle emotions and empathy is strictly connected to the helping relationship (40,41). A recent study has demonstrated that emotional intelligence and cognitive empathy in nursing students are related to the perception of end-of-life care and educational interventions that act on these learning outcomes improve the perception of nursing students and therefore should be included in the development of curricula and related extracurricular programmes (42). Developing positive attitudes to palliative care fosters overcoming prejudices and fears tied to the concept of death (9,43). In our qualitative data, death has been described as a taboo, an inherent idea in Italian culture that is an obstacle to the acquisition of positive attitudes to palliative care, but through the proposed training and activities of reflection the students began to overcome it towards a concept of death understood as a natural part of life and a unique experience (9). Discussion and reflection in small groups is a training strategy that has proven to be effective in palliative care training (18). It is well known that through the lens of reflection students can begin to approach death and the emotions tied to it and to identify coping strategies (44). In this project, reflection in a small group has been perceived as an educational strategy that increased the awareness in students of themselves and their self-confidence; this outcome was also recorded in a qualitative study exploring the experiences of students on death and care for the dying patient (45). Reflection takes on a central role in particular in educational programmes based on simulation, which the recent literature is focussing on, demonstrating its effectiveness on different outcomes, among which knowledge, attitudes and self-efficacy (27). The participants in the study stated the need for repeated educational interventions on palliative care, the literature records that additional training is recommended above all for those students who show a profile of "Death Avoidance" (18). One last important aspect that emerges from the qualitative analysis of the answers to the questions asked of the participants concerns themes such as "Recognising your limits", "Knowing how to let yourself go", "Recognising your emotions": in the experience of students it is in fact possible to trace how much psychological well-being, understood as work on oneself aimed at increasing awareness of one's emotions, is fundamental for one's attitude to end-of-life care. This aspect is also confirmed in the literature, which highlights how nursing students need high levels of psychological well-being to tackle stressful situations in a constructive manner, including situations that involve the death of another person; this condition cannot be separated from appropriate education on the themes of death and dying (46).

Limits

This contribution is the presentation of a project for improving the quality of education, in which it was decided to involve the entire cohort of students of the third year in the second semester, so that they would not miss a potentially very educational experience for their future occupation. The use of convenience sampling, of just one course year and in a single site are aspects that limit the generalisability of our results. Since this is a composite educational intervention, we were unable to analyse the potential impact of individual educational interventions. For example, in future studies, we suggest analysing the potential effect of the film on students' attitudes.

Conclusions

End-of-life care, even though it may appear sectoral, is not destined to be relegated solely to specific operating units and contexts and, inevitably, nearly all nurses will have to take care of people in the last part of their life. For students to develop a positive attitude, it is necessary for the teaching of palliative care to be included in university programmes, both to increase the efficacy of care and for the psychological well-being of students and future nurses. This study has highlighted how a short training experience composed of a combination of educational methods has positively changed the attitude to end-of-life care of nursing students attending the third year of the course.

Considering the intrinsically interdisciplinary nature of palliative care in the future it could be useful to plan educational interventions involving students of different disciplines. An additional starting point for future research is that of involving both nurses and nursing students concurrently so as to foster an exchange of the experience of the professionals with the "fresh" perspective of the students.

Ethic Approval: This is an educational innovation project to improve the quality of training for future nurses, which was approved by the Nursing Degree Council. Since it was not a research study, approval from the ethics committee was not necessary. This is a formally new teaching activity in the curriculum of the Nursing Degree Course.

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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