ARAŞTIRMA MAKALESİ / *RESEARCH ARTICLE*

Effect of Education Given to Nursing Students on Their Palliative Care Knowledge and Attitudes

Hemşirelik Öğrencilerine Verilen Eğitimin Palyatif Bakım Bilgi ve Tutumlarına Etkisi

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ABSTRACT

Aim: *This study aimed to evaluate the effect of education given to nursing students on their palliative care opinion, knowledge, and attitudes.*

Material and Method: *The study used a single group pre-test/post-test method. The study was carried out between 11–26 December 2017 with the participation of second-grade nursing students enrolled at a university. The study sample consisted of 105 students before the training and 98 students after the training. The study data were collected using a palliative care knowledge, opinion form, and the Frommelt Attitudes Toward Care of the Dying Scale (FATCOD). In the analysis of the data, McNemar chi-square for dependent groups, t-test, and Pearson's correlation test were used.*

Results: *The mean age of the students was 19.71±1.01 years. The percentage of the students who had clinical practice experience in the palliative care unit during their education was 11.4%, while 32.4% were determined to have already been given palliative care. Before and after the training, the students stated that the place of effective/quality palliative care service was mostly palliative care units. The students reported that the most challenging symptoms in palliative care management would be delirium, pain, dyspnea, and fatigue. The proportion of the students who wanted to work in palliative care after graduation decreased after the training (p>0.05). The students' mean pre-training palliative care knowledge score was 9.95±2.00, and it was found to increase to 12.29±2.42 significantly after the training (t/p=-7.881/0.000). The mean FATCOD score of the students who wanted to work in palliative care after graduation (114.66±8.76) was determined to be higher compared to the students who did not want to (108.24±8.88) (t=3.468, p=0.001). In addition, there was a positive but weak correlation between students' mean post-training palliative care knowledge score and their mean FATCOD score (r=0.285, p=0.004).*

Conclusion: *The education given to the students about palliative care was found to create positive differences in their knowledge and attitudes. However, it was determined that education reduced the willingness of postgraduate students to work as palliative care nurses.*

Key words: *attitude; knowledge; nursing; palliative care; education*

ÖZET

Amaç: *Bu çalışmada hemşirelik öğrencilerine verilen eğitimin palyatif bakım görüş, bilgi ve tutumlarına etkisinin değerlendirilmesi amaçlandı.*

Materyal ve Metot: *Çalışmada tek gruplu bir ön test / son test yöntemi kullanıldı. Araştırma, 11-26 Aralık 2017 tarihleri arasında bir üniversiteye kayıtlı 2. sınıf hemşirelik öğrencilerinin katılımıyla gerçekleştirildi. Araştırmanın örneklemini eğitim öncesi 105 öğrenci, eğitim sonrası 98 öğrenci oluşturdu. Araştırmanın verileri, palyatif bakım bilgisi, görüş formu ve Ölmekte olan Hastanın Bakımına İlişkin Tutum Ölçeği (FATCOD) kullanılarak toplandı. Verilerin analizinde, bağımlı gruplar için McNemar ki-kare, t-testi ve Pearson's korelasyon testi kullanıldı.*

Bulgular: *Öğrencilerin yaş ortalaması 19.71 ± 1.01 idi. Eğitimleri süresince palyatif bakım ünitesinde klinik uygulama deneyimi yaşayan öğrencilerin oranı %11.4 olarak bulunurken, %32.4'ünün palyatif bakım verdiği belirlendi. Eğitim öncesi ve sonrasında öğrenciler etkili/kaliteli palyatif bakım hizmetinin yerinin daha çok palyatif bakım üniteleri olduğunu belirtti. Öğrenciler palyatif bakım yönetiminde en zorlayıcı semptomların deliryum, ağrı, nefes darlığı ve yorgunluk olacağını bildirdi. Eğitim sonrasında mezuniyet sonrası palyatif bakımda çalışmak isteyen öğrencilerin oranı azaldı (p>0.05). Öğrencilerin eğitim öncesi palyatif bakım bilgi puanı ortalaması 9.95 ± 2.00 olup, eğitim sonrasında 12.29 ± 2.42'ye anlamlı olarak arttığı belirlendi (t/p=-7.881/0.000). Mezuniyet sonrası palyatif bakımda çalışmak isteyen öğrencilerin FATCOD puan ortalamasının (114.66 ± 8.76), istemeyenlere göre daha yüksek olduğu belirlendi (108.24± 8.88) (t = 3.468, p = 0.001). Ayrıca, öğrencilerin eğitim sonrası palyatif bakım bilgi puanı ortalaması ile FATCOD puan ortalaması arasında pozitif ancak zayıf bir korelasyon olduğu bulundu (r = 0.285, p = 0.004).*

Sonuç: *Öğrencilere palyatif bakım konusunda verilen eğitimin bilgi ve tutumlarında olumlu farklılıklar yarattığı görüldü. Ancak eğitimin, mezuniyet sonrası öğrencilerin palyatif bakım hemşiresi olarak çalışma isteklerini azalttığı belirlendi.*

Anahtar kelimeler: *bilgi; eğitim; hemşirelik; palyatif bakım; tutum*

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Introduction

According to the population characteristics of Turkey, life expectancy is known to be 78 years on average, and the first three causes of death are known to be chronic diseases such as circulatory system, cancer, and respiratory system diseases[1]. In addition, with the current 8.2% elderly population, the country's population is aging every other day[1]. Besides, patients who need palliative care receive care mainly in intensive care units and emergency departments for symptom management[2]. All these data show that the need for palliative care in Turkey is increasing gradually.

The international association for hospice and palliative care has focused on developing four main topics for hospice and palliative care. These are training strategies for cost-efficient palliative care, access to drugs, health policies, and implementation of palliative care services[3]. A quality palliative care service can be provided with a holistic approach that involves a team of well-trained experts, a collaboration between hospitals, necessary legal arrangements, and well-coordinated home care services.

Palliative care is recognized as a separate area of expertise in countries like the US, Britain, Canada, and Australia. Australia has established the "Palliative Care Curriculum for Nursing Education" to train specialist nurses[4]. In a study examining palliative medicine education in universities in the European region, 13 out of 43 countries were determined to have palliative medicine education. The countries where palliative care in medical education is best provided were Israel, Norway, England, Belgium, France, Austria, Germany, and Ireland[5]. There is no subspecialty program in palliative care in faculties of medical sciences and master's degree programs in palliative care nursing in nursing schools in Turkey. Palliative care covers a limited place in medical and nursing undergraduate education. Nurses who will give this service are educated through in-service training programs after graduation, and the larger part of the education is given theoretically[4].

Palliative care aims to improve patients' quality of life by reducing physical, psychological, and spiritual suffering[6]. In many studies in the literature, positive changes have been observed in students' palliative care knowledge and attitudes through educational interventions[7–9]. The European Association for Palliative Care (EACP) 2004 document on palliative care nursing education is widely known and used in many countries to support nursing education[10]. The American Association of Colleges of Nursing (AACN) established the End of Life Nursing Education Consortium (ELNEC) in 2010 to promote the development of palliative care. The association provides training worldwide[11]. In one study, after the ELNEC education, students' correct responses to questions about palliative care philosophy, symptom management, communication, and mourning process increased significantly[8]. The education of healthcare professionals who provide palliative care is expected to improve the quality of life and cost savings of patients and their relatives[6]. Positive results have been obtained in studies investigating the effects of palliative care[10]. It is stated that palliative care reduces the symptom burden and hospitalizations of the patients and enables them to stay at home safely[12].

In palliative care, end-of-life patients are served, and the quality of care can be provided by nurses who can comfortably reflect on their feelings and thoughts about death and end-of-life care[13]. Nursing students' attitudes towards death and the dying patient are important factors affecting the quality of care[14]. This is also necessary for emotional support and compassionate care in service delivery[13]. Current research confirms that healthcare providers feel inadequate to address patients' spiritual concerns and need continuing education on these issues[15]. It is necessary to talk about death and ensure the continuity of education so that students can gain insight into their individual effects and feelings in the face of death and ultimately realize a good/honorable death process[14].

The importance of education of qualified health professionals supported in terms of knowledge and skills is evident in the effective delivery of palliative care[10,16]. The nurse has an important place in the multidisciplinary team providing palliative care. This study aimed to evaluate the effect of education given to nursing students on their palliative care opinion, knowledge, and attitudes.

Material and Methods

Design and Setting

The study used a single group pre-test/post-test method. Ankara University, Faculty of Health Sciences, Nursing Department, where the study was carried out, is an institution giving four-year education. The internal Medicine Nursing course is given in the fall semester of the second grade. Before taking this

course, students take basic medical sciences and "Basic Principles and Practices in Nursing" courses. The study consisted of students taking the Internal Medicine Nursing course at Ankara University Faculty of Health Sciences. During the 2017–2018 academic year, 197 students took this course.

Participants

The study sample consisted of 105 students before the training and 98 students after the training. The participants included in the study were taking the Internal Medicine Nursing Course at Ankara University Faculty of Health Sciences. Also, they volunteered to participate in the study. *The inclusion criteria*: Taking the Internal Medicine Nursing Course for the first time and attending the palliative care course. *The exclusion criterion*: Refusing to volunteer to participate in the study.

Data Collection

To test the comprehensibility of the questionnaire forms to be administered in the study, 10 nursing students who were not in the universe of the study were asked to fill out the forms. Necessary corrections were made accordingly, and the forms were finalized. The pilot study was carried out on 11 December 2017.

The students agreeing to participate in the study were administered the data collection forms as a pretest before 12 December 2017. The study data were collected using a student information form, the palliative care knowledge and opinion form, and the Frommelt Attitudes Toward Care of the Dying Scale (FATCOD). The Palliative Care Training session was held on 26 December 2017 in the last hour of the Internal Medicine Nursing course in the 2017–2018 Academic Year. The training content was prepared based on the literature (Table 1).[8,17,18]. The training was provided by the researcher, who has palliative care experience. Students performed clinical practice within the scope of the internal medicine nursing course for 14 weeks, two days a week. Educational content was discussed using the students' own clinical experiences. The training took 5 hours. Immediately after the training, the posttest was administered. The training was held in a conference hall with 220 people using a computer-aided power-point presentation, and a board was used to carry out the discussion and write down important points.

Description of Data Collection Tools

The Student Information Form: This form was designed by the researchers based on the literature[8,19,20]. The form involved 12 questions aiming to determine socio-demographic characteristics of the nursing students (age, gender, high school education, clinical practice experience), death experience, and their working status in the palliative care unit (experiencing death in

Table 1. *Palliative care education content*

The content of the education	Teaching technique
What is palliative care?	Narration, Question-answer, Discussion, Demonstration, Case presentation
What is the purpose of palliative care?	
History of Palliative Care	
Principles of Palliative Care	
Duties of the Palliative Care Team and the Nurse	
Palliative Care Services Offered in Turkey	
Criteria for Acceptance to Palliative Care Unit and Home Care	
Palliative Care in Health Education	
Barriers to Providing Palliative Care	
Ethical Principles and Dilemmas in Palliative Care	
Symptom Management in Palliative Care (Pain, dyspnea, fatigue, anorexia and cachexia, mucositis, nausea and vomiting, constipation, dehydration, delirium)	
Communication Problems and Management in Palliative Care	
Death and Mourning Process	

first degree relatives, time elapsing after loss, the status of giving care to dying patients in the clinic, the feelings experienced while providing care to these patients, the status of receiving education on death, working experience in palliative care unit).

The Palliative Care Opinion Form: The researchers prepared the Palliative Care Opinion Form based on the literature [5,8,18]. This form consisted of a total of 8 questions about the definition of palliative care, who the recipients are, where these services can be managed more effectively, the most common symptoms of palliative care patients, which of these symptoms the students would have difficulty managing, the desire for working in the palliative care unit after graduation, and the barriers that limit palliative care.

The Palliative Care Knowledge Form: No valid and reliable measurement tool measures the palliative care knowledge of nursing students in Turkey. To determine the palliative care knowledge of the students, a 17-item form was prepared to evaluate their knowledge and attitudes toward palliative care[18,21,22]. The form consisted of statements evaluating the knowledge of palliative care philosophy, pain, nutrition, dyspnea, fatigue and delirium management, skills for coping with stress, and team collaboration. For content validity, the form was submitted to the opinions of two experts in internal medicine nursing and a faculty member in the field of public health nursing. These experts, whose opinions are taken, have the knowledge and experience for palliative care. Accordingly, the content validity index of the form was determined to be one (1) in the analysis performed according to the Davis technique[23]. The students were asked to mark each item in the form of "True," "False," or "I do not know." There were 9 true and 8 false items (item 1, 3, 5, 8, 9, 13, 16, 17) in the form. The total score in the form is calculated by scoring each correct answer as 1 and each incorrect or "I don't know" response as 0. The highest score that could be obtained from the form was 17, and increased scores indicated an increase in the level of knowledge.

FATCOD, Form B: This is a 30-item scale developed by Katherine H Murray Frommelt in 2003. The scale contains an equal number of expressions, including positive and negative attitudes[24]. A Likert-type scale is scored between "1- Strongly disagree" and "5- Strongly agree". The total score is calculated by inversing the items for negative attitudes (3, 5, 6, 7, 8, 9, 11, 13, 14, 15, 17, 19, 26, 28, 29) and summing them with positive items. The total score obtained from the scale varies between 30 and 150, and high scores indicate a more positive attitude. The validity and reliability study of the Turkish version was carried out by Çevik & Kav in 2013 [25]. Cronbach's Alpha value of the Turkish version of the scale was 0.69.

Statistical Analysis

SPSS (Statistical Package for Social Sciences) version 15 was used to analyze the study data and create the tables. Frequency, percentage, mean, and standard deviation values were used to present the data regarding nursing students' sociodemographic characteristics, palliative knowledge, and opinions. According to the Kolmogorov Smirnov test, the mean scores obtained from the FATCOD scale showed a normal distribution. The relationship between independent variables (gender, the status of experiencing the loss of a person, status of receiving education on death, clinical experience of palliative care and desire to work in palliative care units, the experience of caregiving to dying patients) and post-training mean FATCOD scores were analyzed with independent samples t-test. McNemar Chi-Square (x^2) test and t-test for dependent groups were employed to compare nursing students' pre-and post-training knowledge and opinions on palliative care. Pearson's correlation was used to determine the relationship between students' mean post-training palliative care knowledge score and their mean score from the FATCOD scale. In all statistical analyses, $p<0.05$ was accepted as the significance level.

Ethical Consideration

The Ethics Committee approved the study of Ankara University with decision number 01/12 on 06 December 2017. It complies with the principles of the Declaration of Helsinki. Institutional permission and written informed consent were obtained from all students.

Results

Participants

The mean age of the students participating in the study was 19.71±1.01 (18–24) years, and 90.5% of the participants were female. The mean duration of students' clinical practice experience was 2.87±1.6 (1–8) months. Of the participants, 71.4% were found to do clinical practice in internal clinics, while 25.7% were determined to practice in intensive care units. When students' experiences regarding the loss of a person

and giving palliative care were examined, 33.3% of the students were found to experience the loss of a friend or relative. The time elapsed after the loss was determined to be 25 months over in 62.9% of them. Of the students, 57.1% reported that they had already given care to a dying patient, and the frequently felt emotion while providing the care was helplessness in 47.6% and grief and despair in 37.1%. Also, 21% of the students were found to have received training on death, 11.4% had done clinical practice in the palliative care unit, and 32.4% had given care to a palliative care patient.

Pre and Post-training Opinions about Palliative Care

The proportion of students who correctly defined palliative care before the training was 69.5%, and it increased to 93.9% after the training. Before the training, 73.3% of the students stated that palliative care should be given to patients with end-stage heart failure, while 66.7% said it should be given to cancer patients. After the training, the rate of students who could identify palliative care patient groups increased. Before and after the training, the majority of the students stated that the place for effective/quality palliative care service was palliative care units. When the place where dying patients want to receive care was questioned before the training, 42.9% of the students responded to the question as home, and 47.6% responded as a palliative care unit. After the training, there was a decrease in the rate of "home care" responses (37.8%) and an increase in the rate of "palliative care" responses (55.1%). Before the training, students said the most common symptoms of the patients who receive palliative care were pain (85.7%), fatigue (63.8%), and dyspnea (44.8%). After the training, the students reported the same symptoms with different percentages, such as 90.8% (pain), 65.3% (dyspnea), and 41.8% (fatigue). The students thought the symptoms that would be the most challenging in the management of palliative care were delirium, pain, fatigue, and dyspnea (Table 2).

When the students were asked about what hindered the provision of palliative care, 38.1% defined it as the lack of trained health professionals before the training. After the training, 33.7% described the barriers to the provision of palliative care as both the lack of trained health professionals and the inadequacy of palliative care centers in terms of number and bed capacity. The rate of those who wanted to work in palliative care units after graduation was 41.9% before the training, and it was found to decrease to 36.7% after the training (p=0.382). Before the training, 74.3% of the students were found to agree on the item "Is it inevitable that health professionals working in palliative care units will experience burnout?" this proportion increased to 87.8% after the training (p=0.037) (Table 2).

Palliative Care Knowledge and Attitudes

When palliative care knowledge of the students before and after the training was compared, the rate of correct responses to nine of the 17 items was found to significantly increase after the training (item 3, 6–8, 13–17) (Table 3). Although it is not shown in the table, the mean pre-training palliative care knowledge score of the students was 9.95±2.00 (3–15), and it was found to increase to 12.29±2.42 (7–16) significantly after the training (t/p=-7.881/0.000).

The students' pre and post-training mean FATCOD scores were 106.93±8.48 (83–126) and 110.60±9.32 (87–135), respectively. The scores were found to increase significantly (t/p=-2.802/0.006). Independent sample t-test was used to analyze the difference between independent factors (gender, experiencing the loss of a person, the status of receiving training on death, clinical palliative care experience and willingness to work in palliative care units, the experience of giving care to a dying patient) which may affect the burden of giving care to a dying patient on the student after the training and the mean FATCOD score. Accordingly, the mean FATCOD scores of the students who wanted to work in palliative care units after graduation (114.66±8.76) were higher than those of the students who did not want to (108.24±8.88), and the difference between the scores was found significant (t=3.468, p=0.001). In addition, there was a positive but weak correlation between the mean post-training palliative care knowledge score and the mean FATCOD score (r=0.285, p=0.004). According to the analysis results, no other variables significantly differed in the FATCOD mean score. When the difference between pre and post-training mean item scores of the FATCOD scale of the students was examined, a statistically significant increase was found in the responses given to most items after the training (Table 4).

Discussion

Palliative care is a human right. It is an approach to improving the life quality of patients and their relatives. In palliative care, life and death are seen as normal processes. Death is neither delayed nor accelerated[6].

Table 2. *Students' opinions on palliative care*

	Pre-training (n: 105)		Post-training (n: 98)	
Opinions on palliative care. What is palliative care?	n	%	n	%
It is the care given only to cancer patients in the end-stage of life.	1	1	1	1
It provides the management of symptoms related to life-threatening diseases.	73	69.5	92	93.9
It is the care provided only in palliative care units.	4	3.8	2	2
Palliative care covers only applications involving pain control.	7	6.7	3	3.1
It aims to extend the life of the patient.	20	19	-	-
Who are the recipients of palliative care?				
Cancer patients	70	66.7	88	89.8
Terminal-stage patients with heart failure	77	73.3	90	91.8
Terminal-stage patients with a renal disease	67	63.8	73	74.5
Patients with advanced stage respiratory failure	62	59	75	76.5
AIDS patients	33	31.4	61	62.2
Patients with advanced stage dementia	29	27.6	52	53.1
Patients with advanced motor neuron disease	40	38.1	57	58.2
Where should effective/quality palliative care be given?				
Home care services	19	18.1	18	18.4
Palliative care units	76	72.4	64	65.3
General hospital services	2	1.9	-	-
General hospital intensive care units	8	7.6	-	-
Home care services and palliative care units	-	-	12	12.2
All	-	-	4	4.1
Where should your dying patient receive care?				
At home	45	42.9	37	37.8
Palliative care units	50	47.6	54	55.1
General hospital services	2	1.9	-	-
General hospital intensive care units	8	7.6	-	-
Home care services and palliative care units	-	-	7	7.1
Indicate the three most common symptoms experienced by patients receiving palliative care.				
Pain	90	85.7	89	90.8
Dyspnea	47	44.8	64	65.3
Fatigue, weakness	67	63.8	41	41.8
What symptom do you think will challenge you most in palliative care management?				
Pain	31	29.5	37	37.8
Dyspnea	8	7.6	15	15.3
Fatigue	10	9.5	1	1
Delirium	41	39	41	41.8
What is the most important obstacle limiting the provision of palliative care?				
Lack of trained health professionals	40	38.1	33	33.7
Inadequate number and bed capacity of palliative care centers	21	20	33	33.7
Unawareness of patients who need palliative care about palliative care services	25	23.8	14	14.3
All	5	4.8	10	10.2
No idea	14	13.3	8	8.2
Would you like to work in the palliative care unit after graduation?				
Yes	44	41.9	36	36.7
No	61	58.1	62	63.3
Is it inevitable that health professionals working in palliative care units will experience burnout?				
Yes	78	74.3	86	87.8
No	27	25.7	12	12.2

Table 3. *Comparison of students' correct response rates for palliative care before and after training*

	Pre-training (n: 105)		Post-training (n: 98)		
Statements on palliative care knowledge	n	%	n	%	p
1. Palliative care should only be given to patients who cannot find treatment with medication. (F)	86	81.9	84	85.7	0.700
2. Long-term use of opioids often leads to addiction. (T)	76	72.4	71	72.4	1.000
3. There is no choice other than the central venous line in cases where the peripheral intravenous line cannot be employed. (F)	32	30.5	45	45.9	0.020*
4. Stage of the disease determines the method of pain treatment. (T)	91	86.7	87	88.8	0.839
5. Nonpharmacological approaches have no effect on pain management. (F)	80	76.2	77	78.6	1.000
6. Drowsiness related to electrolyte imbalance may reduce the need for sedation in the last days of life. (T)	29	27.6	52	53.1	0.000*
7. It is appropriate to use respiratory depressants for the treatment of severe dyspnea in the late stages of a disease. (T)	22	21	51	52	0.000*
8. Placebo is suitable for the treatment of some types of pain. (F)	12	11.4	55	56.1	0.000*
9. Men often deal with grief more easily than women. (F)	46	43.8	40	40.8	0.532
10. Chronic pain symptoms are different from acute pain symptoms. (T)	78	74.3	85	86.7	0.072
11. The pain threshold decreases more often in cases of anxiety and fatigue. (T)	86	81.9	81	82.7	1.000
12. Prevention and effective treatment of oral mucositis are important in maintaining nutrition. (T)	98	93.3	93	94.9	0.774
13. Patients who experience fatigue and exhaustion must be taken to bed rest. (F)	37	35.2	57	58.2	0.003*
14. Delirium is an acute and fluctuating deterioration in attention, consciousness, and perception. (T)	85	81	90	91.8	0.023*
15. Preventing delirium is more effective than treating it. (T)	69	65.7	88	89.8	0.001*
16. Diagnosis of a patient with a fatal disease should be concealed from the patient to enhance the capacity of the patient to cope with the disease (F)	69	65.7	80	81.6	0.025*
17. Palliative care can also be carried out without a multidisciplinary team. (F)	49	46.7	69	70.4	0.001*

McNemar x^2 test was applied in dependent groups, *p<0.05. T: Right, F: False

Table 4. *Comparison of students' mean FATCOD scores before and after training*

Items	Pre-training $\bar{X} \pm$ S. D.	Post-training $\bar{X} \pm$ S. D.	p
1. Giving care to the dying person is a worthwhile experience.	4.60±0.60	4.66±0.62	0.482
2. Death is not the worst thing that can happen to a person.	3.43±1.01	3.41±1.17	0.896
3. I would be uncomfortable talking about impending death with the dying person.	2.23±1.18	2.66±0.98	0.007*
4. Caring for the patient's family should continue throughout the period of grief and bereavement.	3.73±1.10	4.32±0.85	0.000*
5. I would not want to car efor a dying person.	3.51±1.07	3.42±0.96	0.594
6. The nonfamily caregivers should not to be the one to talk about death with the dying person.	3.14±1.13	3.13±1.01	0.952
7. The lenght of time required giving care to a dying person would frustrate me.	3.48±1.09	3.62±1.02	0.413
8. I would be upset when the dying person I was caring for gave up hope of getting better.	1.73±0.80	1.78±0.73	0.652
9. It is difficult to form a close relationship with the dying person.	2.34±0.92	2.48±1.09	0.307
10. There are times when the dying person welcomes death.	3.68±0.74	3.87±0.83	1.102
11. When a patient asks, "Am I dying" I think it is best to change the subject to something cheerful.	3.44±1.02	3.77±1.09	0.044*
12. The family should be involved in the physical care of the dying person.	4.24±0.73	3.02±1.08	0.000*
13. I would hope the person I'm caring for dies when I am not present.	3.51±1.14	3.52±1.15	0.953
14. I am afraid to become friends with a dying person.	3.38±1.13	3.35±1.14	0.850
15. I would feel like running away when the person actually died.	3.23±1.05	3.02±1.08	0.177
16. Families need emotional support to accept the behavior changes of the dying person.	4.37±0.65	4.46±0.54	0.266
17. As a patient nears death, the nonfamily caregiver should withdraw from his/her involvement with the patient.	3.81±0.82	3.79±0.93	0.863
18. Families should be concerned about helping their dying member maket he best of his/her remaining life.	4.48±0.59	4.50±0.64	0.913
19. The dying person should not be allowed to make decisions about his/her physical care.	3.76±1.02	4.10±0.96	0.026*
20. Families should maintain as normal an environment as possible for their dying member.	4.34±0.61	4.16±0.68	0.046*
21. It is beneficial for the dying person to verbalize his/her feelings.	4.52±0.54	4.51±0.57	0.885
22. Care should extend to the family of the dying person.	4.33±0.74	4.52±0.66	0.060
23. Caregivers should permit dying persons to have flexible visiting schedules.	3.97±0.98	4.26±0.83	0.013*
24. The dying person and his/her family should be the in-charge decision-makers.	3.65±1.08	4.01±0.90	0.006*
25. Addiction to pain relieving medication should not be a concern when dealing with a dying person.	3.57±0.94	4.17±0.89	0.000*
26. I would be un comfortable if I entered the room of a terminally ill person and found him/her crying.	2.62±1.17	2.44±1.06	0.313
27. Dying persons should be given honest answers about their condition.	3.85±0.78	4.13±0.78	0.016*
28. Educating families about death and dying is not a nonfamily caregiver responsibility.	3.83±0.99	3.66±1.11	0.235
29. Family members who stay close to a dying person often interfere with the professional's job with the patient.	2.17±0.64	2.24±0.70	0.445
30. It is possible for nonfamily caregivers to help patients prepare for death.	3.78±0.74	4.09±0.73	0.003*

In dependent groups t-test was applied, * p<0.05.

When students' responses regarding palliative care were examined according to this philosophy before the training, 19% of the students were found to define palliative care as a process of extending patients' life. In contrast, no students agreed with this view after the training. Most of the students thought that the place for effective/quality palliative care service was palliative care units.

Symptom management, patient advocacy, and communication are highly important factors in maintaining palliative care[26]. According to the students who participated in the study, the three most common symptoms experienced by patients receiving palliative care were pain, fatigue-weakness, and dyspnea, respectively. After the training, delirium, pain, dyspnea, and fatigue were determined to be the symptoms that the students would have difficulty in managing. In a study, the training needs of nurses and physicians regarding palliative care were found as end-of-life communication (66.7%), ethical issues (66.7%), delirium management (60%), pain assessment and management (51.7%), intervention in dyspnea (45%), spiritual care (40%), intervention in insomnia (36.7%), loss of appetite (33.3%), nausea and vomiting (30%), and intervention in intestinal problems (20%) [27]. When these results are examined, given the low number of students attending the clinic in the palliative care unit and providing care to the patient in need of palliative care, the students can be said to have a good awareness of identifying the common symptoms of palliative care.

In the study, the students were asked about what hindered the provision of palliative care most. Before the training, the students responded to this question by marking the options such as the lack of educated health professionals (38.1%), the lack of information about palliative care services (23.8%), and inadequate number and bed capacity of palliative care centers (20%). In a study investigating the knowledge of the families of patients receiving palliative care in Turkey, 68% of the families reported not knowing about palliative care. Besides, 45.8% of the families obtained information from people receiving palliative care and 25% from their close friends[17]. People can not request or evaluate a service they have no idea of[12]. One of the most important ways of raising the awareness of patients and their relatives is to increase the professionals' awareness who will provide the service through education.

Care for dying patients requires coping with many stressors. Otherwise, health professionals who constantly witness losses will inevitably suffer burnout after a while[28]. Sometimes, burnout can occur due to intensive working conditions. Besides, burnout can also be experienced due to reasons such as the impossible demands of people in agony, the vulnerability of the patients, and the perfectionist personality characteristics[28]. The number of students who stated that they would like to work in the palliative care unit after graduation decreased after the training. Also, most students regard the burnout of healthcare workers working in palliative care units as inevitable. In another study, a group of students who had received ELNEC training was asked whether they would be interested in palliative and end-of-life care certification to improve their nursing practices. 60.4% of these students responded negatively to this question[8]. The nurses who decide to work in palliative care after graduation should be selected among volunteers aware of the definition of the task. In this way, it will be possible to increase the quality of care and reduce the risk of burnout. A systematic review evaluating the prevalence of burnout in healthcare professionals working in palliative care determined that nurses mostly experienced emotional exhaustion (19.5%) and depersonalization (8.2%)[29].

The rate of correct responses of the students to the statements in the palliative care knowledge form after the training was relatively high. The rate of correct answers to the statement "the use of respiratory depressant drugs for the treatment of severe dyspnea in the end stages of a disease is appropriate" increased from 21% to 52%, and the rate of correct responses to the statement "the use of placebo is appropriate for the treatment of certain types of pain" increased from 11.4% to 56.1%. Also, there was a significant increase in the rate of correct responses to the statements such as "Preventing delirium is more effective than treating it," "Diagnosis of a patient with a fatal disease should be concealed from the patient to enhance the power of the patient to cope with the disease," and "Palliative care services can be carried out without a multidisciplinary team." In a study evaluating the palliative care knowledge of 220 nursing students from five different nursing schools in Jordan, the palliative care knowledge of the students was found to be inadequate. 44% of the students who participated in the study stated that "Drugs that can cause respiratory depression during terminal stages of a disease are suitable for the treatment of severe dyspnea," and 31% in the same study stated that "Accumulation of

losses makes burnout unavoidable for people working in palliative care"[21]. In another study conducted with Saudi nursing students, students' knowledge of palliative care philosophy and pain management was inadequate[30]. In the study, the percentage of correct answers to some questions about pain, dyspnea, and fatigue management was low before the training. However, the rates of correct responses to these items increased through training.

Student nurses are often caught unprepared for patient care due to inadequate training in patient care during the death process, which causes them to experience feelings of anxiety, sadness, and inadequacy in the care process[7,14]. Witnessing the death of a person you give care and caring to a person approaching death is highly stressful and causes intense emotions[31,32]. For this reason, for the caregiver and the recipient to end up with harmony in this process, they should receive training regarding their knowledge and attitudes. In a systematic review study, the palliative care education given to nursing students positively affected students' attitudes towards dying patient care positively[7]. In the study, the mean FATCOD scores of the students who wanted to work in the palliative care units after graduation was determined to be significantly higher. As the palliative care knowledge score increased, the FATCOD score was found to increase, too. The positive attitudes of students who want to work in these units towards death willingly is an expected and desired state. In a study conducted in China, 23.8% of nursing students were reluctant to work in palliative care. The factors affecting this situation were fear of facing death and death anxiety in 56.2% and a distressing and depressive working environment in 78%[32].

As a result, it is seen that the educational interventions given before and after graduation affect the knowledge and attitude towards palliative care positively[9,16,33,34].

Limitations

This study has a few limitations. First of all, palliative care training was provided in a single five-hour meeting. Students did their clinical practice mostly in internal clinics. A limited number of students could go into clinical practice in only two palliative care wards. Second, no valid and reliable measurement tool measures student-specific palliative care knowledge.

For this reason, a form based on the literature was prepared by the researchers, and only the content validity was evaluated. However, after the implementation of the study was completed, a test adaptation study was found that measured the clinical nurses' knowledge of palliative care[35]. Third, the palliative care information form covers only the structure and process of palliative care, symptom management, and grief.

Conclusion

In this study, the palliative care training given to nursing students created significant differences in the students' opinions, knowledge, and attitudes. Also, as the palliative care knowledge score increased, the mean FATCOD score was found to increase, too, and a weak but significant correlation was between them. Volunteering to work in palliative care units was determined to affect the mean FATCOD score. After the training, there was a decrease in nursing students' desire to work in palliative care units after graduation. Students had an average of 3 months of clinical experience, so they likely thought they would have difficulty in critical patient and family care. We think that palliative care education showed the truth in these results, but inadequacy in failing to cope with death and mourning was also influential.

The content of palliative care education to be given to nursing students should be arranged according to the needs of the students. More emphasis should be placed on issues where students feel inadequate or challenged. Also, it is important to provide clinical practice opportunities where students can perform or observe palliative care practices in the clinic to meet the educational goals.

Prolonging the life expectancy through medical and technological developments has resulted in a change in the population pyramid, bringing about a gradually growing elderly population. This necessitates the provision of palliative care at the undergraduate level of the nursing curriculum. Therefore, palliative care should be placed in undergraduate education programs and not postponed until graduation.

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