ORIGINAL RESEARCH

Enhancing end-of-life education for new graduates

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ABSTRACT

Background and objective: Nurses frequently report insufficient preparation to provide high-quality end-of-life (EOL) care, despite an increasing number of patients requiring comfort-focused interventions. At a community hospital in Connecticut, formal EOL education is limited to a specialty unit, resulting in newly graduated nurses on other inpatient units caring for patients at the end of life without standardized training. The purpose of this evidence-based practice project was to evaluate the impact of integrating the End-of-Life Nursing Education Consortium (ELNEC) curriculum into a new graduate nurse residency program on nurses' self-perceived knowledge of caring for patients receiving comfort measures.
Methods: A single-group, quasi-experimental pretest-posttest design was used. New graduate nurses on inpatient medical units completed the End-of-Life Care Questionnaire (EOL-Q) before and after completing the online ELNEC course. Descriptive statistics and Wilcoxon signed-rank test were used to analyze changes in self-perceived knowledge.
Results: Eight nurses completed the post-intervention assessment. Median scores increased across all four EOL-Q factors and across the knowledge, attitude, and management subdomains. Statistically significant improvements were observed in advance care planning (p = .035), symptom management (p = .030), emotional and spiritual support (p = .022), knowledge (p = .022), attitude (p = .035), and management (p = .021). Communication and continuity of care improved but did not reach statistical significance (p = .055).
Conclusions: Findings suggest that integrating the ELNEC curriculum into a new graduate nurse residency program may improve nurses' self-perceived knowledge and attitudes related to end-of-life care. Given the small sample size, single-site setting, and unmatched pretest–posttest design, findings should be interpreted as preliminary.

Key Words: Attitude towards dying, ELNEC, End-of-life care, New graduate nurses, Self-perceived knowledge

1. BACKGROUND

Palliative care is recognized as an essential component of comprehensive health care and is associated with improved quality of life, symptom management, and patient satisfaction for individuals with serious illness. The World Health Organization and the Worldwide Palliative Care Alliance estimate that 40 million people globally need palliative care each year, half of them at the end of life.[1] The global burden of serious health-related suffering increased by 74% between 1990 and 2021, reaching nearly 73.5 million individuals, with 80% of this burden concentrated in low- and middle-income countries. By 2060, an estimated 48 million people will die annually with serious health-related suffering, representing an 87% increase from 2016. Over a million people die each week worldwide, and 75% do so without access to essential medicines needed to relieve suffering.[2]

Despite the growing need for palliative care services, significant gaps remain in the preparation of healthcare professionals to provide competent, evidence-based palliative

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care. Across multiple countries, nursing education programs have demonstrated inconsistencies in the integration of palliative and end-of-life content within undergraduate curricula. Many nurses report limited confidence and inadequate preparation in areas such as pain and symptom management, goals-of-care discussions, ethical decision-making, and care of dying patients and their families. Insufficient preparation may contribute to provider distress, reduced quality of care, and unmet patient and family needs.[3] As the population ages, the need for high-quality end-of-life care increases. Nurses play a key role in improving the dying process for patients and families.

Current practice at this Connecticut hospital is that all end-of life patients are transferred to the oncology/hospice unit for care. The nurses and staff on the oncology unit are specially trained to assess and treat patients receiving comfort measures only (CMO) or comfort care. The training is informal and passed along from the experience and knowledge of the more senior nurses to the new nurses. Nurses on the other units are not given the same training. There is often a delay in transfer to the oncology unit due to bed availability on the oncology unit. This results in nurses without formal or informal EOL training providing care to this special population.

Families of hospice patients give patient satisfaction scores that are up to four times higher if they perceive that nurses are well skilled in keeping the family informed on the dying process and plan of care, while providing them with accurate information.[4] The current care model in use does not support this due to a lack of formalized training. Nurses across the hospital need to be properly educated on how to care for this patient population.

In 2000, the American Association of Colleges of Nursing and The City of Hope Cancer Hospital designed an evidence-based curriculum addressing caring for patients at the end-of-life as well as their families. The End-of-Life Nursing Education Consortium (ELNEC) curriculum addresses multiple facets of end-of-life care such as the physical, emotional, and spiritual needs of the patient. The Hospice and Palliative Care Nursing Association (HPNA) and American Nursing Association (ANA) recommends that all nurses be ELNEC trained.[5] Since 2000, the ELNEC curriculum has been disseminated to 91 countries and translated into eight languages, with over 21,400 trainers educating more than 642,000 nurses worldwide. Despite this reach, only 25% of U.S. nursing schools have adopted ELNEC modules, highlighting the persistent gap between available evidence-based curricula and their implementation.[6]

The purpose of this project was to evaluate whether participation in the ELNEC curriculum was associated with changes in nurses' self-perceived knowledge, attitudes, and competencies in caring for patients receiving comfort-focused care.

Among new graduate nurses, is participation in an ELNEC curriculum integrated into a nurse residency program associated with changes in self-perceived knowledge and competence in caring for patients receiving comfort-focused end-of-life care?

1.1 Theoretical framework or conceptual model

Kolcaba's Comfort Theory provided the guiding framework for this project. Comfort Theory emphasizes the nurse's role in identifying, assessing, and responding to comfort needs across physical, psychospiritual, sociocultural, and environmental domains.[7,8] The framework is relevant to end-of-life nursing because nurses require knowledge, confidence, and clinical skills to provide interventions that promote comfort for patients and families during serious illness and the dying process.

For this project, the underlying assumption was that structured education in end-of-life care may increase nurses' knowledge and confidence in providing comfort-focused care. The ELNEC curriculum addresses symptom management, communication, psychosocial support, and care during the final hours of life. These competencies align with the principles of Comfort Theory by supporting nurses in delivering holistic, patient-centered interventions intended to promote comfort. Although patient comfort outcomes were not directly measured in this project, the framework provided a conceptual basis for examining changes in nurses' self-perceived end-of-life care competencies.

1.2 Review of literature

An online search was conducted using the University of Connecticut (UConn) online library website which includes search engines such as Ovid, PubMed, and other direct journal searches. The Cochrane Library was also searched. The primary literature search was done with the term "ELNEC in new nurses". Additional terms and keywords were used such as barriers to EOL care, new grad residency, and quality EOL care. Search filters were applied to narrow down the material such as articles, peer-reviewed journals, and full text. A time filter of the last 10 years was applied. All the articles included were written or translated into English.

According to the Centers for Medicare 1.7 million of Americans chose hospice care in 2022, this was 7% increase from the previous year. The rise in hospice care can be attributed to the aging population.[1] In Connecticut alone, over 1,600 people used a hospice benefit in 2021. Only 44% of Medicare patients who died in 2021 were on hospice service. This statistic is on trend with the National average of ap-

proximately 47%.[9] National and local statistics were not available on patients that died while on CMO and not hospice.

Hospice care is tailored to the individual needs and preferences of patients and their families. This personalized approach ensures that care is provided in accordance with the patient's wishes, values, and goals, fostering a sense of dignity and autonomy. A 2023 meta-analysis examined what contributes to patient/family satisfaction in hospice care. The common themes that emerged were communication, support, and comfort.[10] Patients and families often express satisfaction when they receive high-quality medical care from skilled professionals who specialize in end-of-life care. This includes effective pain and symptom management, assistance with activities of daily living, and emotional support.[5]

In 2000, the American Association of Colleges of Nursing and the City of Hope Cancer Hospital designed an evidence-based curriculum addressing caring for end-of-life patients and their families. The ELNEC curriculum addresses multiple facets of end-of-life care such as the physical, emotional, and spiritual needs of the patient. The ELNEC program has expanded well beyond the United States. The first ELNEC-International course was launched in 2006 in Salzburg, Austria, in partnership with the Open Society Institute and Open Medical Institute, and has since been delivered in locations including China and Kenya. The ELNEC Undergraduate curriculum is designed for pre-licensure nursing students, RN-to-BSN students, and newly licensed nurses during their first year of practice. It aims to prepare nurses to provide high-quality primary palliative and end-of-life care across healthcare settings. The curriculum was revised and updated in 2023 to align with the AACN CARES competencies for undergraduate nursing education.[5]

Gupta et al. (2022) conducted a quasi-experimental study to examine the impact of the ELNEC program on palliative care knowledge and nurses' attitudes toward caring for the dying in India. The study involved 108 registered nurses who completed assessments before and after the training. The results show a statistically significant improvement in the knowledge and attitudes of the nurses. The findings suggest that the ELNEC program effectively enhances nurses' understanding and attitudes toward palliative and end-of-life care. By improving nurses' knowledge and attitudes, the ELNEC program can contribute to better quality end-of-life care for patients. The study emphasizes the importance of integrating EOL education into nursing curricula and recommends a greater implementation of the ELNEC course to address gaps in palliative care education and practice.[11]

Eileen O'Shea and Diana Mager evaluated the effectiveness of a palliative and end-of-life care nursing education program on nurses' knowledge and attitudes toward caring for patients at the EOL. The study included 134 nurses that took the ELNEC course. The researchers used a quasi-experimental research design with pre-test and post-test. The results suggest that post-test knowledge scores increased significantly (t = -7.498; p = .000) and the attitudes of nurses improved significantly post-intervention (t = 3.944; p = .000). The study concludes that educating practicing nurses with the ELNEC curriculum is an effective mechanism for both increasing knowledge and improving attitudes. The author recommends that more education is needed to meet the growing demands of the aging population.[12]

A 2021 study by Manning et al. investigated the effectiveness of ELNEC training on registered nurses' ability to provide palliative and end-of-life care. A pretest-posttest design demonstrated a significant improvement in participants' knowledge regarding quality EOL care ($p < .001$). This study demonstrates the course's effectiveness in enhancing nurses' ability to deliver compassionate care to patients at the end of life.[3]

A quasi-experimental study of 135 third-year nursing students in Singapore who participated in a two-day palliative and EOL care simulation program found significant improvements in palliative care knowledge ($p = .003$) and emotional intelligence ($p < .001$). Students with prior experience caring for a person receiving palliative or EOL care scored significantly better post-simulation ($p = .011$). This study reinforces the success of palliative care education.[13]

The 2022 study by Ghaemizade Shushtari et al. investigates the impact of ELNEC training on the knowledge and performance of nurses in intensive care units (ICUs). Conducted as a quasi-experimental pretest-posttest study, the research involved 80 ICU nurses from two hospitals in Iran. The nurses were randomly assigned to intervention and control groups. The intervention group underwent the ELNEC program, while the control group received no such training. Data was collected using the ELNEC Knowledge Assessment Test (ELNEC-KAT) and the Program in Palliative Care Education and Practice Questionnaire (PCEP-GR). The results demonstrated significant improvements in both knowledge and performance among the intervention group. Knowledge scores across all ELNEC module topics showed a substantial increase ($p < .001$). Similarly, performance scores in areas such as preparation for providing palliative care, self-assessment of communication abilities with dying patients and their families, and self-assessment of palliative care knowledge and skills also significantly improved ($p < .001$). These findings demonstrate the effectiveness of ELNEC training in ICU

nurses' ability to deliver end-of-life care. The author states that ELNEC is being considered as continuing education in the ICU.[14]

Hagelin et al. (2022) studied the occurrence of palliative/EOL care education in Swedish undergraduate nursing programs through a national mixed-methods survey. The findings indicated that while all 24 participating universities included some form of palliative/EOL care education, few offered dedicated courses on the subject. Most of the instruction was theoretical. Educators reported challenges in conveying the complexities of palliative/EOL care, particularly in addressing existential issues and facilitating communication about death. The study highlights the need for a more comprehensive and standardized approach to palliative care education in nursing curricula to better prepare students for delivering end-of-life care.[15]

A scoping review of 34 studies from Ireland found that undergraduate palliative care education is more evident in countries with higher incomes, with limited research from low- and middle-income countries. Key barriers included crowded curricula, lack of clinical placement expertise, and difficulty providing clinical placements. Early integration of palliative care education was identified as a facilitating factor that positively influences students' preparedness and attitudes.[16]

A systematic review and meta-analysis of nine controlled trials from Singapore found that EOL educational interventions were effective in improving attitudes towards death and caring for dying patients among both nurses and nursing students at post-intervention. Subgroup analyses revealed that online educational courses were feasible, and that attitude toward death may require longer interventions to show improvement. The sustainability of improvement could not be determined due to lack of follow-up assessments.[17]

Montagnini et al. (2021) examine the End-of-Life Care Questionnaire (EOL-Q), an instrument they developed to assess healthcare professionals' self-perceived competencies in providing end-of-life care. This study highlights the growing need for reliable tools to evaluate the knowledge, attitudes, and skills of healthcare providers as they care for patients nearing the end of life. The EOL-Q includes items across multiple domains such as decision-making, symptom management, communication, and emotional support, aiming to offer a comprehensive understanding of healthcare workers' readiness in this challenging area. The EOL-Q was given to 1,197 healthcare providers at a major medical center, the majority of them being nurses. Through a rigorous validation process, the authors demonstrate that the EOL-Q is both reliable (0.93) and valid for assessing competencies in palliative care. This instrument is crucial for identifying gaps in training and guiding further educational interventions to improve the quality of end-of-life care.[18, 19]

The literature review was limited by a lack of large-scale studies and meta-analysis on ELNEC and EOL care being integrated into new graduate nurse residency programs. Overall, the literature supports the importance of structured palliative and end-of-life education for nurses and provides evidence that ELNEC and other structured educational interventions can improve knowledge, attitudes, and perceived preparedness. However, limited evidence specifically examines ELNEC integration into new graduate nurse residency programs, supporting the need for further evaluation in this population.

2. METHODS

Participants completed the ELNEC Undergraduate/New Graduate Curriculum through the Relias learning platform. The ELNEC Undergraduate/New Graduate Curriculum is a standardized, evidence-based educational intervention developed through a national collaboration between the American Association of Colleges of Nursing (AACN) and City of Hope. The curriculum has undergone expert review, periodic revision, and widespread implementation in undergraduate nursing programs and healthcare organizations in more than 90 countries. Multiple quasi-experimental studies have demonstrated significant improvements in nurses' knowledge, confidence, communication, and attitudes toward palliative and end-of-life care following ELNEC education. The curriculum consists of six interactive online modules: Introduction to Palliative Care Nursing, Communication in Palliative Care, Pain Management in Palliative Care, Symptom Management in Palliative Care, Loss, Grief, and Bereavement, and Final Hours of Life. The modules incorporate case studies, clinical judgment exercises, video demonstrations, and knowledge assessments designed to develop primary palliative care competencies among nursing students and newly graduated nurses. Participants were required to successfully complete all six modules and achieve a minimum score of 80% on module assessments to receive a certificate of completion. All newly graduated nurses meeting eligibility criteria during the study period were invited to participate by email invitation.

The online ELNEC course was completed between October and December 2025 and included structured educational content, case-based learning activities, and reflective components designed to reinforce application to clinical practice. Participants completed all assigned modules independently and self-paced within the designated timeframe. To promote consistency in intervention delivery, all participants completed the same standardized ELNEC curriculum modules

using the same educational content and assessment requirements. The structured format and comprehensive scope of the curriculum were intended to enhance the likelihood of detecting changes in end-of-life care knowledge and attitudes following the intervention.

A single-group quasi-experimental unmatched pretest-posttest design was used to evaluate the effect of the educational intervention on new graduate nurses' end-of-life care knowledge and attitudes. Participants included newly graduated registered nurses with less than one year of clinical experience who were employed on inpatient medical units at the hospital, including oncology, surgery, orthopedics, neurology, and progressive care units. The hospital is a mid-sized community academic Level II trauma center located in Southern Connecticut and serves a diverse urban population.

End-of-life knowledge and attitudes were measured using Marcos Montagnini's EOL-Q, a validated instrument designed to assess nurses' self-reported knowledge, attitudes, and comfort in providing end-of-life care. The EOL-Q has demonstrated evidence of reliability and validity in previous research. The instrument includes multiple domains addressing end-of-life communication, symptom management, decision-making, and other competencies relevant to end-of-life care. Reported Cronbach's alpha coefficients for the instrument's domains and subscales range from 0.66 to 0.92, supporting acceptable to strong internal consistency across domains.[18,19] Permission was obtained from Montagnini by email. To minimize error variance, all participants completed the same electronic pretest and posttest instruments under standardized conditions using identical survey procedures. Electronic survey administration also supported participant confidentiality and reduced response bias.

Although individual responses were not matched across time points, extraneous variance was reduced by recruiting participants from the same clinical setting, limiting eligibility to newly graduated nurses with similar levels of clinical experience, and administering the intervention during the same study period using standardized educational content and procedures. These measures were implemented to promote consistency across participant experiences and reduce the potential influence of confounding variables on study outcomes. The cost of enrollment in the online ELNEC course was $29 USD per participant.[5]

Descriptive statistics were used to summarize participant responses. Because the pretest and posttest surveys were anonymous and could not be linked at the individual participant level, the observations were unmatched. The statistical analysis plan was developed in consultation with a university statistician, who recommended the Wilcoxon signed-rank procedure based on the study design, small sample size, and distribution of the data. The analysis was conducted accordingly, with statistical significance established at $p < .05$.

This study involved no direct procedures or interventions performed on human subjects beyond anonymous survey completion. Because no identifying information was collected, the risk to participants was minimal and confidentiality risks were low. The protocol was reviewed by the institutional review board and deemed exempt from formal review.

3. Results

Twenty newly graduated registered nurses employed on inpatient medical units met the eligibility criteria and were invited to participate in the project. Of these, 15 expressed interest in participating, 11 completed the pre-intervention EOL-Q, and 10 enrolled in the online ELNEC curriculum. Two participants who enrolled in the curriculum did not complete the post-intervention assessment, eight participants completed the post-intervention EOL-Q and were included in the final analysis. Three nurses were excluded because they had previously completed ELNEC certification and therefore did not meet the study eligibility criteria.

All participants were newly graduated registered nurses with less than one year of clinical experience who were employed on inpatient medical units. Of the eight participants included in the final analysis, seven (87.5%) were female and one (12.5%) was male. Five participants were employed on the oncology unit, two on a medical unit, and one on the neurology unit. No additional demographic characteristics were collected because all survey responses were anonymous.

Pre- and post-intervention EOL-Q scores were analyzed to evaluate changes in nurses' self-perceived knowledge and attitudes toward end-of-life care following completion of the ELNEC curriculum. Because the data were not normally distributed, descriptive statistics were used to summarize participant responses, and differences between pre- and post-intervention scores were analyzed using the Wilcoxon signed-rank test.

Because the data was not normally distributed, results are presented as medians and interquartile ranges (IQRs). Median scores increased across all four EOL-Q factors following completion of the ELNEC curriculum (see Table 1). Communication and Continuity of Care increased from a median of 3.0 (IQR 3.0–4.0) to 4.0 (IQR 4.0–5.0). Advance Care Planning increased from a median of 3.0 (IQR 2.0–4.0) to 4.0 (IQR 3.0–4.0) ($p = .035$). Symptom Management increased from a median of 4.0 (IQR 3.0–4.0) to 4.0 (IQR 4.0–5.0) ($p = .030$), and Emotional and Spiritual Support increased

from a median of 4.0 (IQR 3.0–4.0) to 4.0 (IQR 4.0–5.0) (p = .022). Median scores also increased across all three EOL-Q subdomains (see Table 2). Knowledge increased from a median of 3.0 (IQR 3.0–4.0) to 4.0 (IQR 4.0–5.0) (p = .022). Attitude increased from a median of 3.0 (IQR 3.0–5.0) to 4.0 (IQR 3.75–5.0) (p = .035), and Management increased from a median of 3.0 (IQR 2.75–4.0) to 4.0 (IQR 4.0–5.0) (p = .021).

Table 1. Pre- and post-intervention EOL-Q factor scores

Factor	Pre-intervention Median (IQR) (N = 11)	Post-intervention Median (IQR) (N = 8)	*p*-value
Communication and Continuity of Care	3.0 (3.0–4.0)	4.0 (4.0–5.0)	.055
Advance Care Planning	3.0 (2.0–4.0)	4.0 (3.0–4.0)	.035
Symptom Management	4.0 (3.0–4.0)	4.0 (4.0–5.0)	.030
Emotional and Spiritual Support	4.0 (3.0–4.0)	4.0 (4.0–5.0)	.022

Note. Values are presented as Median (25th–75th Interquartile Range).

Table 2. Pre- and post-intervention EOL-Q subdomains

Subdomain	Pre-intervention Median (IQR) (N = 11)	Post-intervention Median (IQR) (N = 8)	*p*-value
Knowledge	3.0 (3.0–4.0)	4.0 (4.0–5.0)	.022
Attitude	3.0 (3.0–5.0)	4.0 (3.75–5.0)	.035
Management	3.0 (2.75–4.0)	4.0 (4.0–5.0)	.021

Note. Values are presented as Median (25th–75th Interquartile Range).

4. Discussion

This study evaluated whether participation in an ELNEC educational intervention was associated with changes in self-perceived end-of-life care competencies among newly graduated nurses. Participants demonstrated higher post-intervention median scores in advance care planning, symptom management, emotional and spiritual support, and the knowledge, attitude, and management subdomains of the EOL-Q. Communication and continuity of care also improved but did not reach statistical significance (p = .055). These findings provide preliminary evidence that structured end-of-life education may strengthen newly graduated nurses' self-perceived preparedness to provide end-of-life care.

The findings are consistent with previous studies reporting improvements in nurses' knowledge, attitudes, confidence, and perceived preparedness following ELNEC or structured palliative care education. Similar findings reported by Manning, Gupta, and O'Shea support the potential value of structured end-of-life education across different nursing populations and practice settings.[11–13] However, differences in study populations, sample sizes, designs, and outcome measures limit direct comparison with the present project.

The greatest improvements were observed in the symptom management and management-related domains of the EOL-Q. One possible explanation is the practice-oriented nature of the ELNEC curriculum, which emphasizes evidence-based approaches to symptom management and holistic end-of-life care. Newly graduated nurses frequently report feeling underprepared to provide end-of-life care because opportunities to develop competencies in symptom management, communication, and psychosocial support during prelicensure education may be limited. Recent evidence has identified these areas as essential components of nursing education while highlighting persistent gaps in undergraduate preparation.[20] The improvements observed in these domains suggest that structured educational interventions such as ELNEC may help strengthen foundational knowledge and increase nurses' perceived preparedness to provide evidence-based end-of-life care.

In contrast, improvements in communication and continuity of care were more modest and did not achieve statistical significance. One possible explanation is that communication surrounding serious illness and end-of-life care represents a complex clinical competency that extends beyond knowledge acquisition. Developing proficiency in these conversations requires repeated opportunities to apply communication strategies in authentic clinical situations, receive feedback, and engage in guided reflection. Recent evidence suggests that experiential learning approaches, including simulation, clinical modeling, and structured debriefing, are particularly effective for strengthening communication competence in palliative and end-of-life care.[21] Although participants demonstrated higher post-intervention scores in several domains, the study design does not permit determination of whether the ELNEC intervention itself caused these changes. The findings never-

theless suggest that a single online educational program may not provide sufficient experiential learning to produce measurable improvements in communication-related outcomes.

Katharine Kolcaba's Comfort Theory provided a meaningful framework for interpreting these findings. Comfort Theory proposes that enhancing caregivers' knowledge and confidence supports the delivery of holistic interventions that promote comfort across physical, psychospiritual, sociocultural, and environmental domains. The observed increases across multiple EOL-Q domains are consistent with the theoretical proposition that greater knowledge and confidence may support nurses' ability to provide holistic, comfort-focused care. However, because patient comfort and clinical outcomes were not measured, the present findings cannot establish whether changes in nurses' self-perceived competencies translated into improved patient outcomes.

Several limitations should be considered when interpreting these findings. The study included a small convenience sample from a single community hospital, limiting generalizability to other healthcare settings. Participant attrition further reduced the final sample size and limited statistical power to detect differences, particularly in communication-related outcomes. In addition, the pretest and posttest surveys were anonymous and could not be linked at the individual participant level, resulting in an unmatched pretest–posttest design. Observed differences cannot be attributed with certainty to individual changes following the intervention. The absence of a comparison group also limits the ability to distinguish intervention effects from other factors that may have influenced participants' responses during the study period. Completion of the educational intervention outside scheduled work hours likely influenced participation and course completion. In addition, the limited number of eligible participants reflected an unusually low rate of newly graduated nurse hiring during the study period rather than a lack of interest in participation. Because the study relied on self-reported measures of competence, improvements represent perceived preparedness rather than objectively observed clinical performance. Future studies incorporating behavioral assessments, simulation-based evaluation, or patient and family outcomes would provide a more comprehensive assessment of educational effectiveness.

Despite these methodological limitations, the findings provide preliminary evidence that integrating structured ELNEC education into a new graduate nurse residency program is feasible and may be associated with improvements in nurses' self-perceived end-of-life care competencies. Improvements were observed in knowledge, attitudes, symptom management, advance care planning, and emotional and spiritual support. However, the small sample, single-site setting, absence of a comparison group, and unmatched pretest–posttest design require cautious interpretation of these findings.

Larger studies using matched longitudinal assessments, comparison groups, and objective measures of clinical competence are needed to determine whether ELNEC education produces sustained improvements in nurses' end-of-life care competencies and whether such improvements translate into measurable patient and family outcomes. Future research should also examine whether combining online ELNEC education with simulation, supervised clinical practice, and longitudinal mentorship strengthens communication and other complex end-of-life care competencies.

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The authors declare that there is no conflict of interest.

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Obtained.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

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