J Hosp Palliat Care 2023 December;26(4):160-170
https://doi.org/10.14475/jhpc.2023.26.4.160

Original Article

pISSN 2765-3072 • eISSN 2765-3080

Effects of Death Anxiety and Perceived End-of-Life Care Competencies on Fear of Terminal Care among Clinical Nurses

Heewon Kim, R.N., A.R.N., M.S.N. and **So-Hi Kwon**, R.N., A.P.R.N., B.S., Ph.D.*

Daegu Veterans Hospital,
*College of Nursing, Research Institute of Nursing Science, Kyungpook National University, Deagu, Korea

Purpose: The aim of this study was to examine the effects of death anxiety and perceived end-of-life care competencies on the fear of terminal care among clinical nurses. **Methods:** This correlational study was conducted from June to July 2021. The study included 149 clinical nurses employed at a tertiary hospital and seven other hospitals. The measurement tools used in this study were the Thanatophobia Scale (Cronbach's α=0.87), the Death Anxiety Scale (Cronbach's α=0.80), and the Scale of End-of-life Care Competencies (Cronbach's α=0.94). These instruments were chosen to assess the levels of fear of terminal care, death-related anxiety, and competencies in end-of-life care. **Results:** The mean score for fear of terminal care was 3.32±1.32. Differences in fear of terminal care were observed based on the working unit, position, number of patients requiring terminal care, and experience with end-of-life care education. Fear of terminal care was significantly positively correlated with death anxiety and significantly negatively correlated with end-of-life care competencies. In multiple regression analysis, the factors influencing fear of terminal care were attitudes toward end-of-life care competencies (β=-0.39, P<0.001), death anxiety (β=0.24, P<0.001), knowledge of end-of-life care competencies (β=-0.22, P=0.005), and behaviors related to end-of-life care competencies (β=-0.16, P=0.021). These factors explained 64.6% of the total variance (F=25.54, P<0.001). **Conclusion:** This study suggests that developing nurses' end-of-life care competencies and reducing death anxiety are crucial for managing the fear of terminal care. Therefore, providing end-of-life care education and psychological support programs is important.

Key Words: Death, Anxiety, Fear, Terminal care, Clinical competence

Received July 18, 2023
Revised November 8, 2023
Accepted November 14, 2023

Correspondence to
So-Hi Kwon
ORCID:
https://orcid.org/0000-0002-5640-0463
E-mail: sh235kr@gmail.com

Funding/Support
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

INTRODUCTION

1. Background

The number of deaths occurring in medical institutions is increasing annually, with three-fourths of deaths in Korea now taking place within these settings [1]. As a result, the responsibilities of clinical nurses in end-of-life care have expanded due to the shift in the location of death from the home to medical facilities. Patients nearing the end of life, along with their families, have diverse and specific needs that span psychosocial, spiritual, and educational dimensions [2]. To address the multifaceted needs of patients and their families effectively, and to support a dignified and peaceful end-of-life experience, the primary requirement for clinical nurses is for the nurse's own heart to be at ease when caring for the dying

patient. Despite this, many nurses harbor a preference for no deaths to occur during their shifts. If a death occurs, they often feel an urge to quickly transfer the deceased to the mortuary, revealing an underlying fear of interacting with dying patients [3]. This fear and anxiety about facing dying patients can lead to psychological distancing in end-of-life care situations. Such distancing not only compromises the quality of care provided [4,5], but also contributes to nurse turnover and the intention to leave the profession [5]. Therefore, it is crucial to explore and address the fears that clinical nurses have concerning terminal care.

Thanatophobia is defined as the emotional pain and fear caused by thoughts of death; it is a fundamental and universal fear that affects everyone [6]. The act of caring for dying patients can serve as a poignant reminder of mortality. Nurses with an intense fear of death may feel uncomfortable in the presence of dying patients and tend to avoid discussions about death, which can hinder their ability to provide end-of-life care [4]. The Thanatophobia Scale, developed by Merrill et al. [7], measures the discomfort and fear medical staff experience when caring for dying patients. Although it is used internationally, it has not yet been adopted in Korea. Most Korean studies have focused on the stress nurses face in end-of-life care and their awareness and attitudes toward it [8]. These studies address variables related to superficial consciousness and do not explore the underlying fear of death, which is the cause of the subtle discomfort nurses experience when confronting dying patients. Consequently, this study aims to determine the level of fear clinical nurses have regarding end-of-life care and to identify the factors that influence this fear, utilizing the Thanatophobia Scale.

Several factors influence attitudes toward end-of-life care, including education and knowledge about the subject, the work environment, and nurses' own death anxiety [9-11]. Nurses often contemplate death when caring for dying patients. The more anxious they are about their own mortality, the more likely they are to avoid dying patients, resulting in a more passive approach to providing end-of-life care [12]. By participating in programs that encourage reflection on their own mortality and acceptance of death, nurses have been able to forge stronger connections with dying patients and their families, and they have reported an improvement in the quality of their care [13]. Moreover, while high-level care competency is essential for delivering quality care, most nurses lack education in end-of-life care prior to being tasked with it [14], and they often have inadequate knowledge and skills in this area [15]. This lack of experience and competency can demoralize nurses and instill a fear of engaging in conversations with dying patients [16]. Therefore, it is crucial to investigate the end-of-life care competencies of nurses, assess their educational needs, and determine whether these competencies influence the fear associated with providing terminal care.

To date, qualitative studies on end-of-life care experiences have revealed that clinical nurses often feel apprehensive about forming bonds with dying patients and discussing death-related topics [4]. However, there has been minimal research into the extent of fear that clinical nurses experience regarding end-of-life care, as well as the factors that contribute to this fear. Therefore, this study seeks to investigate the fear of terminal care among clinical nurses, their death anxiety, and the factors that influence their fear of providing terminal care. Additionally, it will offer foundational data to help address the fear associated with terminal care.

2. Purpose

This study aimed to investigate clinical nurses' death anxiety and end-of-life care competency, as well as to identify factors that influence their fear of terminal care. The specific objectives were as follows.

1) Explore clinical nurses' death anxiety, end-of-life care competency, and fear of terminal care.
2) Investigate the level of fear of terminal care according to the general characteristics of clinical nurses.
3) Assess the correlations among clinical nurses' death anxiety, end-of-life care competency, and fear of terminal care.
4) Identify the factors that affect clinical nurses' fear of terminal care.

METHODS

1. Study design

This study is a descriptive correlational analysis aimed at

exploring clinical nurses' death anxiety and end-of-life care competency, as well as identifying factors that influence the fear associated with providing terminal care.

2. Participants and data collection

This study received approval (2021-0085) from the Institutional Review Board of Kyungpook National University. Participants included clinical nurses from the hospice ward, internal medicine wards, and intensive care unit (ICU) across one tertiary hospital and seven general hospitals in five metropolitan cities. Data collection occurred from June to July 2021. Prior to data collection, the researchers briefed the chief nurse on the study details either in person, with the assistance of the Nursing Department, or via telephone. Subsequently, the nurses were informed about the study's purpose and methodology either directly or through mailed subject information sheets and questionnaires. The subject information sheet outlined the study's title, objectives, duration of participation, methods, procedures, and assured potential participants that there would be no disadvantages should they choose not to participate or decide to withdraw from the study. Nurses who read the information sheet and provided written consent were enrolled in the study voluntarily. Participants were instructed to complete the structured questionnaire and seal it in an individual envelope, which was later collected by the researchers in person or by mail. As a token of appreciation for their participation, the participants received mobile coffee coupons.

The minimum sample size required for a multiple regression analysis was calculated using the G*Power program version 3.1.9, with a significance level of 0.05, an effect size of 0.20, a test power of 0.85, and 19 predictive factors. The calculation indicated that 130 participants were needed [17]. To account for potential dropouts, 150 questionnaires were distributed and subsequently collected. After excluding one questionnaire that was insufficiently answered, 149 were selected for inclusion in the study and analyzed.

3. Study tools

1) Fear of terminal care

Fear of terminal care encompasses the distressing emotions, such as anxiety, helplessness, and frustration, that nurses often encounter while attending to patients who are nearing death [18]. For the purposes of this study, we employed the Thanatophobia Scale, which was originally developed by Merrill et al. [7], to assess nurses' fear of end-of-life care. This scale includes questions about whether the sight of dying patients induces feelings of anxiety or helplessness, and whether discussions about death provoke anxiety. Responses were measured using a 7-point Likert scale, where 1 point indicates "strongly disagree" and 7 points indicate "strongly agree." The overall score could range from a low of 7 to a high of 49 points, with higher scores denoting greater levels of fear. Cronbach's alpha, as a measure of internal reliability, was reported as 0.87 in the study by Merrill et al. [7] and was .92 in the current study.

The Thanatophobia Scale was translated with permission from the copyright holder. A bilingual translator, with a background in nursing and proficiency in both Korean and English, performed the initial translation. This was followed by a reverse translation by an English literature scholar to ensure the translated text retained the original meaning. A panel of eight experts, including two ICU nurses, one internal medicine ward nurse, one hospice ward nurse, three hospice advanced practice nurses, and a family medicine doctor who cares for hospice patients, evaluated the content validity of the translated scale. They calculated the item content validity index (I-CVI) for each item. The I-CVI scores for the seven items ranged from 0.75 to 1.0, and the scale content validity index (S-CVI) was 0.90.

2) Death anxiety

Death anxiety encompasses emotional responses such as discomfort, apprehension, and fear that arise from thoughts of death [19]. In this study, we measured death anxiety using the Korean translation by Ko et al. [20] of the Death Anxiety Scale (DAS), which was originally developed by Templer [19]. The DAS comprises 15 items: 5 items assess the fear experienced when contemplating one's own death, 2 items gauge the avoidance of death-related thoughts, 2 items evaluate the perception of life's brevity, and 6 items measure the fear associated with death-causing incidents and what comes after death. Responses to these items are recorded on a 5-point Likert scale, with 1 point indicating "strongly disagree" and 5 points indicating "strongly agree." A higher aggregate score suggests a greater level of death anxiety. The scores for the 6 positively

https://doi.org/10.14475/jhpc.2023.26.4.160

worded items about death (numbers 1, 3, 6, 7, 14, and 15) were recalculated through reverse scoring. Cronbach's alpha, as an indicator of internal reliability, was 0.83 during the scale's development [19], .80 in the study by Ko et al. [20], and .80 in the current study.

3) End-of-life care competency

End-of-life care competency encompasses the essential knowledge, attitudes, and behaviors necessary to provide high-quality care to patients who are unlikely to recover significantly from their illnesses and are expected to die within a few months after their symptoms progressively worsen, despite receiving active treatment [21]. In this study, end-of-life care competency was assessed using the Korean version of the "Scale of End-of-life Care," originally developed by Montagnini et al. [22] and translated by Lee [23]. This scale comprises 28 items, divided into 12 items for knowledge competency, 5 for attitude competency, and 11 for action competency. Responses are scored on a 6-point Likert scale, with 0 indicating "not applicable" and 5 indicating "strongly agree." A higher score indicates a greater perceived level of end-of-life care competency by the nurse. The scale further delineates specific areas such as decision-making, communication with patients and their families, pain management, emotional support for participants, spiritual support, continuity of care, and emotional support for staff. Although the action competency item originally started with "In the ICU..." to reflect its initial design for ICU nurses, it was modified to "In the relevant unit..." to accommodate the participants in this study, who are nurses working in hospice care, internal medicine wards, and ICUs. The original scale's Cronbach's alpha was .92, with subscale values of 0.92 for knowledge, 0.72 for attitude, and 0.90 for action [22]. In Lee's study [23], Cronbach's alpha for the scale was 0.86 (0.93 for knowledge, 0.70 for attitude, and 0.82 for action), while in the current study, it was 0.92 (0.92 for knowledge, 0.78 for attitude, and 0.86 for action).

4. Data analysis

The collected data were analyzed using SPSS for Windows version 28.0 (IBM Corp., Armonk, NY, USA). We calculated the frequency, percentage, mean, and standard deviation to describe the general characteristics of the participants, as well as their levels of fear of end-of-life care, death anxiety, and end-of-life care competency. To examine differences in death anxiety, end-of-life care, and fear of terminal care, we employed the t-test and analysis of variance; the Scheffé test was used for post-hoc analysis. When the assumption of homogeneity of variance was not met, we conducted the Brown-Forsythe test and the Games-Howell test for post-hoc analysis. As the differences in fear of end-of-life care based on gender did not pass the normality test, we applied the Mann-Whitney U test, which is a nonparametric method. Pearson correlation coefficients were calculated to determine the relationships between participants' fear of end-of-life care, death anxiety, and end-of-life care competency. Regarding the general characteristics of the participants, those that exhibited differences in fear of end-of-life care—including working ward, position, number of cases providing end-of-life care, whether end-of-life care education was received, death anxiety, and end-of-life care competency—were included in a hierarchical multiple regression analysis. This analysis aimed to identify the factors that influence clinical nurses' fear of end-of-life care.

RESULTS

1. General characteristics of participants

The mean age of the participants was 31.43±7.16 years, with 146 of them (98%) being female. Out of the 149 participants, 102 (68.5%) were unmarried. Educational attainment included 113 (75.8%) with a bachelor's degree and 19 (12.8%) with a master's degree or higher. Fifty-four participants (36.2%) practiced a religion. The most common work setting was the hospice ward, with 76 participants (51.0%), followed by internal medicine wards with 66 (44.3%), and the ICU with 7 (4.7%). A majority, 134 (89.9%), were staff nurses, with a mean nursing career length of 7.92±6.96 years. Of these, 47 (31.5%) had 9 or more years of experience. The mean tenure in their current unit was 2.85±2.33 years, with 61 participants (40.9%) having worked there for less than two years. Participants had cared for a mean number of 203.52±305.10 dying patients over the course of their nursing careers, and in the last month, they had provided end-of-life care to a mean number of 6.96±8.19 patients. A total of 109 participants (73.2%) had

Table 1. General Characteristics of Participants (N=149).

Variables	n (%)	Mean±SD (min~max)
Age (yr)		
<28	47 (31.5)	31.43±7.16
28~<34	61 (40.9)	(23~56)
34~<40	22 (14.8)	
≥40	19 (12.8)	
Gender		
Male	3 (2.0)	
Female	146 (98.0)	
Marital status		
Single	102 (68.5)	
Married	47 (31.5)	
Education level		
Associate's	17 (11.4)	
Bachelor's	113 (75.8)	
Master's and above	19 (12.8)	
Religion		
Yes	54 (36.2)	
No	95 (63.8)	
Working unit		
Hospice	76 (51.0)	
Internal medicine	66 (44.3)	
Intensive care	7 (4.7)	
Position		
Staff nurse	134 (89.9)	
Charge nurse	8 (5.4)	
Hospice APN	7 (4.7)	
Nursing career (yr)		
<3	34 (22.8)	7.92±6.96
3~5	40 (26.9)	(0.75~33.7)
6~8	28 (18.8)	
≥9	47 (31.5)	
Working years in the current unit		
<2	61 (40.9)	2.85±2.33
2~3	47 (31.5)	(0.08~14)
≥4	41 (27.5)	
Experience providing terminal care (no. of patients)		
<20	38 (25.5)	203.52±305.10
20~99	42 (28.2)	(1~1280)
100~299	33 (22.1)	
≥300	36 (24.2)	
Experience providing terminal care within the last month (no. of patients)		
0	22 (14.7)	6.96±8.19
1~9	77 (51.7)	(0~50)
≥10	50 (33.6)	
Experience of EoL care education		
Yes	109 (73.2)	
No	40 (26.8)	

received education in end-of-life care, with 54 (25.4%) of those 109 working in the hospice ward and having completed the requisite training for hospice workers. Thirty participants (20.1%) had experienced the loss of immediate family members (Table 1).

2. Death anxiety, end-of-life care competency, and fear of terminal care

The mean death anxiety score among participants was 3.16±0.47, while their mean end-of-life care competency score was 3.61±0.57. Breaking down the end-of-life care competency into sub-factors, the scores were as follows: knowledge at 3.71±0.65, action at 3.61±0.61, and attitude at 3.38±0.71. Additionally, the mean score for fear of terminal care was 3.32±1.32 (Table 2).

Table 1. Continued.

Variables	n (%)	Mean±SD (min~max)
If yes, type of EoL care education (n=109)		
Lecture at college	47 (22.1)	
Practicum at college	9 (4.2)	
Continuing education	47 (22.1)	
In-service training	28 (13.1)	
Academic conference	26 (12.2)	
Mandatory training for hospice workers	54 (25.4)	
Others	2 (0.9)	
Experience of bereavement		
Yes	30 (20.1)	
No	119 (79.9)	

APN: Advanced Practice Nurse, EoL: End of Life.

Table 2. Scores of Fear of Terminal Care, Death Anxiety, and End-of-Life Care Competencies (N=149).

Variables	Mean±SD	Range
Fear of terminal care	3.32±1.32	1~7
Death anxiety	3.16±0.47	1~5
End-of-life care competencies (total)	3.61±0.57	0~5
Knowledge	3.71±0.65	
Attitude	3.38±0.71	
Behavior	3.61±0.61	

https://doi.org/10.14475/jhpc.2023.26.4.160

Table 3. Death Anxiety, End-of-Life Care Competencies, Fear of Terminal Care by General Characteristics of Participants (N=149).

Variable	Death anxiety		End-of-life care competencies		Fear of terminal care	
	Mean ± SD	t/F* (P)	Mean ± SD	t/F* (P)	Mean ± SD	t/F* (P)
Age (yr)						
<28	3.15 ± 0.34	0.09 (0.965)	3.68 ± 0.54	0.56 (0.645)	3.40 ± 1.33	0.36 (0.781)
28~<34	3.15 ± 0.53		3.57 ± 0.61		3.23 ± 1.14	
34~<40	3.19 ± 0.49		3.72 ± 0.65		3.23 ± 1.41	
≥40	3.21 ± 0.56		3.42 ± 0.49		3.55 ± 1.72	
Gender						
Male	2.69 ± 0.41	1.79 (0.76)	3.91 ± 0.68	0.018 (0.986)	2.76 ± 1.01	0.75 (0.449)
Female	3.17 ± 0.47		3.61 ± 0.58		3.33 ± 1.32	
Marital status						
Single	3.15 ± 0.45	0.67 (0.505)	3.56 ± 0.57	0.91 (0.086)	3.37 ± 1.22	0.63 (0.527)
Married	3.20 ± .052		3.73 ± 0.58		3.22 ± 1.51	
Education level						
Associate's	3.28 ± 0.51	0.69 (0.502)	3.52 ± 0.63	2.20 (0.114)	3.67 ± 1.70	1.02 (0.363)
Bachelor's	3.16 ± 0.48		3.59 ± 0.56		3.32 ± 1.22	
Master's and above	3.10 ± 0.42		3.87 ± 0.62		3.05 ± 1.53	
Religion						
Yes	3.16 ± 0.48	0.08 (0.934)	3.71 ± 0.55	1.61 (0.110)	3.10 ± 1.48	1.53 (0.126)
No	3.17 ± 0.47		3.56 ± 0.58		3.45 ± 1.21	
Working unit						
Hospice[a]	3.09 ± 0.47	2.18 (0.117)	3.83 ± 0.59	13.60 (<0.001)	3.01 ± 1.39	7.63 (0.003)
Internal medicine[b]	3.24 ± 0.45		3.42 ± 0.47	b,c<a	3.52 ± 1.10	a<b,c
Intensive care[c]	3.33 ± 0.63		3.10 ± 0.46		4.77 ± 1.31	
Position						
Staff nurse[a]	3.18 ± 0.46	1.63 (0.200)	3.59 ± 0.57	4.67 (3011)	3.37 ± 1.27	4.64 (0.041)
Charge nurse[b]	3.23 ± 0.57		3.47 ± 0.61	a,b<c	3.84 ± 1.84	c<a,b
Hospice APN[c]	2.86 ± 0.47		4.24 ± 0.36		1.88 ± 0.57	
Nursing career (yr)						
<3[a]	3.12 ± 0.32	0.47 (0.701)	3.48 ± 0.61	1.86 (0.138)	3.63 ± 1.37	1.26 (0.289)
3~5[b]	3.15 ± 0.44		3.54 ± 0.54		3.26 ± 1.13	
6~8[c]	3.13 ± 0.58		3.79 ± 0.54		2.98 ± 1.24	
≥9[d]	3.23 ± 0.52		3.68 ± 0.59		3.36 ± 1.45	
Working years in the current unit						
<2[a]	3.02 ± 0.44	4.83 (0.009)	3.55 ± 0.55	3.39 (0.036)	3.32 ± 1.25	2.13 (0.122)
2~3[b]	3.26 ± 0.40	a<b,c	3.54 ± 0.55		3.60 ± 1.39	
≥4[c]	3.27 ± 0.55		3.81 ± 0.60		3.02 ± 1.31	
Experience providing terminal care (no. of patients)						
<20[a]	3.17 ± 0.44	0.13 (0.940)	3.34 ± 0.47	46.25 (<0.001)	3.73 ± 1.06	6.66 (<0.001)
20~99[b]	3.19 ± 0.47		3.42 ± 0.52	a,b,c<d	3.65 ± 1.21	d<a,b
100~299[c]	3.16 ± 0.50		3.69 ± 0.58		3.27 ± 1.62	
≥300[d]	3.13 ± 0.50		4.07 ± 0.45		2.57 ± 1.07	
Experience providing terminal care within the last month (no. of patients)						
0[a]	3.52 ± 0.51	7.97 (0.001)	3.18 ± 0.32	21.07† (<0.001)	4.21 ± 1.15	10.50 (<0.001)
1~9[b]	3.10 ± 0.41	b,c<a	3.54 ± 0.55	a<b<c	3.41 ± 1.21	c<b<a
≥10[c]	3.11 ± 0.48		3.92 ± 0.55		2.79 ± 1.33	
Experience of EoL care education						
Yes	3.12 ± 0.45	1.77 (0.079)	3.78 ± 0.56	6.35 (<0.001)	3.04 ± 1.33	4.54 (<0.001)
No	3.28 ± 0.51		3.18 ± 0.36		4.09 ± 0.96	
Experience of bereavement						
Yes	3.34 ± 0.56	2.30 (0.023)	3.72 ± 0.68	1.06 (0.289)	3.67 ± 1.47	0.19 (0.850)
No	3.12 ± 0.44		3.59 ± 0.55		3.31 ± 1.29	

EoL: End of Life, APN: Advanced Practice Nurse.
*Scheffe test, †Brown-Forsythe test.

3. Death anxiety, end-of-life care competency, and fear of terminal care according to general characteristics

Regarding death anxiety according to the general characteristics of the participants, no significant differences were observed in relation to age, gender, marital status, education level, religion, working unit, position, the total number of cases involving end-of-life care, or whether the participants had received education on end-of-life care. However, nurses who had been working in their current unit for between two and less than four years exhibited higher levels of death anxiety compared to those with less than two years in the same unit (F=4.83, P=0.009). While the overall number of end-of-life care cases did not significantly affect death anxiety levels, participants who had not provided end-of-life care to any individuals in the past month reported higher death anxiety than those who had cared for between one to nine people, or ten or more people, during the same period (F=7.97, P=0.001). Additionally, participants who had experienced bereavement showed higher levels of death anxiety than those who had not (t=2.30, P=0.023).

Age, gender, marital status, education level, religion, years of nursing experience, and personal bereavement experience did not show significant differences in end-of-life care competency. Participants working in hospice wards scored higher in end-of-life care competency than those in internal medicine wards and ICUs (F=13.60, P<0.001). Additionally, hospice nurses outperformed general nurses and charge nurses in this competency (F=4.67, P=0.011). While the number of years working in the current unit was significantly different (F=3.39, P=0.36), there were no significant differences in competency scores among groups categorized by these working years. Nurses who had provided end-of-life care to 300 or more individuals scored higher in competency than those who had cared for 20~99 people and those who had cared for 100~299 people (F=46.25, P<0.001). Those who had provided end-of-life care to 10 or more people in the past month achieved the highest scores, followed by those who had cared for 1 to 9 people, and lastly, those who had not provided care to anyone (F=21.07, P<0.001). Nurses who had received education in end-of-life care also scored higher than those who had not (t=6.35, P<0.001).

Age, gender, marital status, education level, religion, years of nursing experience, years of experience in the current unit, and personal bereavement history did not significantly affect the fear of terminal care. However, there were statistically significant differences based on the unit of work (F=7.63, P=0.003) and job position (F=4.64, P=0.041). Specifically, nurses working in the internal medicine ward and the ICU exhibited higher levels of fear of terminal care compared to those in the hospice ward. Additionally, general nurses and charge nurses experienced greater fear of terminal care than hospice nurses. Participants who had provided end-of-life care to 300 or more patients showed a lower level of fear compared to those who had cared for fewer than 20 and those who had cared for 20 to 99 patients (F=6.66, P<0.001). Moreover, nurses who had provided end-of-life care to 10 or more people within a month exhibited a lower level of fear than their counterparts (F=10.50, P<0.001). Participants who had received education on end-of-life care also reported lower levels of fear compared to those who had not undergone such training (t=4.54, P<0.001) (Table 3).

4. Correlations among death anxiety, end-of-life care competency, and fear of terminal care

Fear of terminal care had a positive correlation with death anxiety (r=0.41, P<0.001) and a negative correlation with end-of-life care competency (r=-0.76, P<0.001) (Table 4).

5. Factors affecting fear of terminal care

A hierarchical multiple regression analysis was conducted to identify factors that influenced fear associated with terminal care. The analysis revealed that certain general characteristics of the participants—specifically, their working unit, position, total number of end-of-life care cases handled, number of cases managed within a month, and whether they received education on end-of-life care—were significantly associated with this fear. These variables were subsequently included in model 1. Death anxiety, along with knowledge, attitude, and action (as sub-factors of end-of-life care competency) were incorporated into model 2 as independent variables. Non-continuous variables, such as working unit, position,

https://doi.org/10.14475/jhpc.2023.26.4.160

Table 4. Correlations among Fear of Terminal Care, Death Anxiety, End-of-Life Care Competencies (N=149).

Variables	r (P)				
	Fear of terminal care	Death anxiety	End-of-life care competencies		
			Total	Knowledge	Attitude
Death anxiety	0.41 (<0.001)	-			
End-of-life care competencies					
Total	-0.76 (<0.001)	-0.25 (0.002)	-		
Knowledge	-0.66 (<0.001)	-0.20 (0.014)	0.91 (<0.001)	-	
Attitude	-0.71 (<0.001)	-0.17 (0.040)	0.84 (<0.001)	0.69 (<0.001)	-
Behavior	-0.65 (<0.001)	-0.27 (0.001)	0.88 (<0.001)	0.63 (<0.001)	0.66 (<0.001)

Table 5. Regression Coefficients of Predictors of Fear of Terminal Care (N=149).

Variables	Model 1*					Model 2†				
	B	SE	β	t	P	B	SE	β	t	P
(Constant)	10.31	4.09	-	2.52	0.013	42.74	6.36	-	6.71	<0.001
Position (Ref: Hospice APN)										
Staff nurse	8.21	3.27	0.26	2.50	0.013	2.71	2.25	0.08	1.20	0.230
Charge nurse	11.69	4.38	0.28	2.66	0.009	4.60	2.98	0.11	1.54	0.125
Working unit (Ref: Hospice)										
Internal medicine	-1.53	1.82	-0.08	-0.84	0.401	-1.49	1.24	-0.08	-1.20	0.230
Intensive care	6.61	3.50	0.15	1.88	0.061	3.62	2.40	0.08	1.50	0.135
Experience of EoL care education (Ref: Yes)	5.51	1.75	0.26	3.14	0.002	0.96	1.26	0.04	0.76	0.447
Experience providing terminal care (no. of patients)	-0.01	0.01	-0.12	-1.42	0.156	0.01	0.01	0.07	1.09	0.274
Experience providing terminal care within the last month (no. of patients)	-0.12	0.11	-0.11	-1.11	0.266	-0.04	0.07	-0.03	-0.53	0.592
Death anxiety	-	-	-	-	-	0.31	0.06	0.24	4.68	<0.001
End-of-life care competencies										
Knowledge	-	-	-	-	-	-0.26	0.09	-0.22	-2.82	0.005
Attitude	-	-	-	-	-	-1.01	0.19	-0.39	-5.16	<0.001
Behavior	-	-	-	-	-	-0.22	0.09	-0.16	-2.33	0.021
F (P)	6.55 (P<0.001)					25.54 (P<0.001)				
R^2 ($\triangle R^2$)	0.246					0.672 (0.321)				
Adjusted R^2	0.208					0.646				

APN: Advanced Practice Nurse, EoL: End of Life.
*Model 1: Position, Working unit, EoL care education experience, Total experience providing terminal care (no. of patients), Experience providing terminal care within the last month (no. of patients), †Model 2: Death anxiety, End of life care competencies (Knowledge, Attitude, Behavior) to Model 1.

and whether education on end-of-life care was provided, were coded as dummy variables. The tolerance levels, which ranged from 0.384 to 0.947, were all above 0.1, and the variation inflation factor values fell between 1.056 and 2.602, well below the threshold of 10, indicating no multicollinearity issues among the independent variables. The Durbin-Watson statistic was 2.210, confirming the independence of the residuals, and the regression model was found to be significant (F=25.54, P<0.001). In model 1, being a staff nurse (β=0.26, P=0.013), a charge nurse (β=0.28, P=0.009), and having received education on end-of-life care (β=0.26, P=0.002) were significant predictors of fear of end-of-life care. The model explained 20.8% of the variance in this fear (F=6.55, P<0.001). When death anxiety and end-of-life

care competency were added to model 2, the attitude towards end-of-life care competency emerged as the most significant predictor (β=-0.39, P<0.001), followed by death anxiety (β=0.24, P<0.001), knowledge of end-of-life care competency (β=-0.22, P=0.005), and attitude (β=-0.16, P=0.021). These factors significantly influenced the fear of terminal care, with the model accounting for 64.6% of the variance (Table 5).

DISCUSSION

If a clinical nurse experiences discomfort or apprehension when faced with patient death and discussions about dying, it may be unrealistic to anticipate the provision of high-quality end-of-life care. This study employed the globally recognized Thanatophobia Scale to assess clinical nurses' fear of providing terminal care and to identify factors that influence this fear. For clarity, the Thanatophobia Scale was referred to as the Fear of Terminal Care Scale within this study to distinguish it from the death anxiety scale.

In this study, the mean fear score among clinical nurses regarding fear of terminal care was 3.32 points. This score is higher than the mean scores reported for Irish clinical nurses (2 points) [9], American clinical nurses (2.13 points) [24], and American nursing college students (2.78 points) [7], as measured using the Thanatophobia Scale. This discrepancy may reflect the cultural nuances of Korea, where indirect, metaphorical language is preferred and discussions directly using the word "death" are commonly avoided [25]. This contrasts with Western cultures, which tend to embrace more direct and assertive communication about emotions. Education plays a crucial role in shaping the sociocultural approach to death. In various countries, individuals of different ages and professions receive education on death, starting from elementary school, to foster an understanding of how both individuals and society should address death-related issues [26]. Nurses, in particular, receive systematic and professional training, from undergraduate programs to clinical practice. Examples of such educational initiatives include the Palliative Care Curriculum for Undergraduates (PCC4U) in Australia and the End-of-life Nursing Education Consortium (ELNEC) in the United States [27,28]. However, in Korea, the inclusion of end-of-life care in undergraduate nursing curricula is minimal [14]. In contrast, hospice workers are mandated to complete 60 hours of combined theoretical and practical standard education. The findings of this study suggest that hospice nurses, who have completed this comprehensive education, exhibit lower levels of fear regarding fear of terminal care compared to their counterparts in internal medicine wards or the ICU. Additionally, nurses with a greater total and recent number of end-of-life care cases showed lower death anxiety, higher competency in end-of-life care, and reduced fear of end-of-life care. While it is unclear whether these outcomes are due to the education received or the frequency of providing end-of-life care, it aligns with previous research indicating that hospice ward nurses experience lower stress and burnout levels than nurses in other units [10]. The lower fear levels among nurses educated in end-of-life care further underscore the significance of such training. For nurses to effectively support patients and their families in facing death with openness and dignity, it is essential that they can discuss death without discomfort or anxiety [29]. Consequently, strategies to alleviate clinical nurses' fear of terminal care are necessary, enabling them to engage in these conversations with dying patients without apprehension.

This study found that death anxiety and end-of-life care competency significantly affect clinical nurses' fear of providing terminal care. High levels of death anxiety among nurses can hinder communication with patients, as witnessing the dying process can be psychologically burdensome. This, in turn, may negatively impact the quality of end-of-life care they deliver [5]. Therefore, it is essential to address nurses' death anxiety through targeted interventions to manage their fear of providing end-of-life care. Nurses who feel ill-equipped to handle end-of-life care often seek to avoid it, as they are unsure of how to communicate with the patients' families, what support to provide, and fear causing harm to dying patients and their families [30]. This study revealed that end-of-life care competency had the most significant impact on nurses' fear of providing such care, underscoring the critical role of education in this area. Given that the ELNEC, developed by the City of Hope National Medical Center and the American Association of Colleges of Nursing in the late 1990s, has been shown to significantly alleviate nurses' fear of end-of-life care [24], it is expected that professional and systematic education will improve clinical nurses' confidence and reduce

https://doi.org/10.14475/jhpc.2023.26.4.160

their fear. While this study highlighted the importance of end-of-life care competency, it did not explore how the type and characteristics of end-of-life education received by clinical nurses might influence their fear of providing care. Future research should investigate the specific types of education and the duration necessary to effectively prepare nurses. Additionally, there is a need to establish an experiential foundation for the relationship between nurses' fear of terminal care and their actual provision of care.

This study showed that clinical nurses' death anxiety and competency in end-of-life care are significant factors contributing to their fear of providing terminal care. To improve the quality of end-of-life care, it is essential to address the death anxiety experienced by clinical nurses and to enhance their competency in this area. Accordingly, educational programs, training, and support should be provided for clinical nurses across diverse work settings.

ACKNOWLEDGMENTS

We would like to express our special appreciation to nurses who participated in this study.

This article is a revision of the first author's master's thesis from Kyungpook National University.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

ORCID

Heewon Kim, https://orcid.org/0009-0004-3066-9183
So-Hi Kwon, https://orcid.org/0000-0002-5640-0463

AUTHOR'S CONTRIBUTIONS

Conception or design of the work: all authors. Data collection: HK. Data analysis and interpretation: HK. Drafting the article: HK. Critical revision of the article: SHK. Final approval of the version to be published: all authors.

SUPPLEMENTARY MATERIALS

Supplementary materials can be found via https://doi.org/10.14475/jhpc.2023.26.4.160.

REFERENCES

1. Statistics Korea. Results of birth and death statistics in 2020 [Internet]. Daejeon: Statistics Korea; c2021 [cited 2021 Jun 10]. Available from: https://www.kostat.go.kr.
2. Kim JA, Kim K, Kang HS, Kim JS. Nursing need and satisfaction of patients in hospice ward. Korean J Hosp Palliat Care 2014;17:248-58.
3. Kim HJ, Ku JI, Byun JH, Kim SM, Choe WS. Nurse's experience of changing role in the hospice unit of medical ward. Korean J Hosp Palliat Care 2008;11:30-41.
4. Kostka AM, Borodzicz A, Krzemi ska SA. Feelings and emotions of nurses related to dying and death of patients - a pilot study. Psychol Res Behav Manag. 2021;14:705-17.
5. Lee MK. Nurses' coping experience on caring for dying patients with cancer [dissertation]. Seoul: Chung-Ang Univ.; 2018. Korean.
6. American Psychological Association. APA dictionary of psychology [Internet]. Washington, DC: American Psychological Association; c2023 [cited 2023 Jun 10]. Available from: https://dictionary.apa.org/death-anxiety.
7. Merril J, Lorimor R, Thornby J, Woods A. Caring for terminally ill persons: comparative analysis of attitudes (thanatophobia) of practicing physicians, student nurses, and medical students. Psychol Rep 1998;83:123-8.
8. Hwang JO, Kim SH. Influence of death perception, attitude toward terminal care, mental health on the terminal care stress of intensive care unit nurses. J Korean Clin Nurs Res 2019;25:323-32.
9. Wilson O, Avalos G, Dowling M. Knowledge of palliative care and attitudes towards nursing the dying patient. Br J Nurs 2016;25:600-5.
10. Parola V, Coelho A, Cardoso D, Sandgren A, Apostolo J. Burnout in palliative care settings compared with other settings: a systematic review. J Hosp Palliat Nurs 2017;19:442-51.
11. Park HJ, Kang EH. Factors influencing nurses' attitudes toward terminal care. J Korean Crit Care Nurs 2020;13:76-86.
12. Braun M, Gordon D, Uziely B. Associations between oncology nurses' attitudes toward death and caring for dying patients. Oncol Nurs Forum 2010;37:E43-E49.

13. Melo CG, Oliver D. Can addressing death anxiety reduce health care workers' burnout and improve patient care? J Palliat Care 2011;27:287-95.
14. Kwon SH, Cho YS. Current status of end-of-life care education in undergraduate nursing curriculum. Korean J Hosp Palliat Care 2019;22:174-84.
15. Schlairet MC. End-of-life nursing care: statewide survey of nurses' education needs and effects of education. J Prof Nurs 2009;25:170-7.
16. Croxon L, Deravin L, Anderson J. Dealing with end of life-New graduated nurse experiences. J Clin Nurs 2018;27:337-44.
17. Faul F, Erdfelder E, Buchner A, Lang AG. Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. Behav Res Methods 2009;41:1149-60.
18. Blood A, Park YS. Critical synthesis package: thanatophobia scale. MedEdPORTAL 2013;9:9629.
19. Templer DI. The construction and validation of a death anxiety scale. J Gen Psychol 1970;82:165-78.
20. Ko HG, Choi JO, Lee HP. The reliability and factor structure of K-Templer death anxiety scale. J Korean Health Psychol 2006;11:315-28.
21. Rietze LL, Tschanz CL, Richardson HRL. Evaluating an initiative to promote entry-level competence in palliative and end-of-life care for registered nurses in Canada. J Hosp Palliat Nurs 2018;20:568-74.
22. Montagnini M, Smith H, Balistrieri T. Assessment of self-perceived end-of-life care competencies of intensive care unit providers. J Palliat Med 2012;15:29-36.
23. Lee HJ. Critical care nurses' perceived and of life care competencies and supportive behaviors and barriers [dissertation]. Seoul: Seoul National Univ.; 2015. Korean.
24. O'Shea ER, Mager D. End-of-life nursing education: Enhancing nurse knowledge and attitudes. Appl Nurs Res 2019;50:151197.
25. Lee JW, Kim JW, Kim TS, Kim CM. Communication about death and confidence levels concerning death-related issues among Koreans. Korean J Fam Pract 2019;9:303-10.
26. Shim SH. A study on the historical development and theoretical perspective on American death education. J Korean Educ Idea 2021;35:21-52.
27. Ramjan JM, Costa CM, Hickman LD, Kearns M, Phillips JL. Integrating palliative care content into a new undergraduate nursing curriculum: The University of Notre Dame, Australia - Sydney experience. Collegian 2010;17:85-91.
28. Ferrell B, Malloy P, Virani R. The end of life nursing education nursing consortium project. Ann Palliat Med 2015;4:61-9.
29. Lautrette A, Darmon M, Megarbane B, Joly LM, Chevret S, Adrie C, et al. A communication strategy and brochure for relatives of patients dying in the ICU. N Engl J Med 2007;356:469-78.
30. Kim DH, Lee LJ. Long-term care hospital nurse's experience in coping with end-of-life care nursing. The Jour of KoCon a 2021;21:710-21.

https://doi.org/10.14475/jhpc.2023.26.4.160