



# Effects of Awareness of Good Death and End-of-Life Care Attitudes on End-of-Life Care Performance in Long-Term Care Hospital Nurses

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**Purpose:** The purpose of this study was to determine the effects of awareness of good death and end-of-life care attitudes on end-of-life care performance in long-term care hospital nurses. **Methods:** This study used a cross-sectional study design. The participants were 147 nurses working at six long-term care hospitals with more than 200 beds in B city, South Korea. Data were collected using self-reported questionnaires, and analyzed with descriptive statistics, the t-test, analysis of variance, Pearson correlation coefficients, and multiple stepwise regression analysis using IBM/SPSS 26.0 for Windows. **Results:** The participants' awareness of good death, end-of-life care attitudes, and end-of-life care performance were positively correlated. The factors affecting end-of-life care performance were age, education level, awareness of good death, and end-of-life care attitudes; these variables explained 19.0% of end-of-life care performance. **Conclusion:** In order to improve long term care hospital nurses' end-of-life care performance, continuing education and training should be provided regarding awareness of good death and end-of-life care attitudes.

**Key Words:** Death, Awareness, Terminal care, Attitude, Work performance

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## INTRODUCTION

### 1. Background

The spread of the nuclear family structure and the increase in women's economic participation weakened the family's traditional role in elderly care, resulting in the phenomenon of elderly dying in the hospital rather than at home [1]. As a result of these changes, elderly patients with chronic diseases and those who are at the end of life are admitted to long-term care hospitals. In 2018 and 2019, 78.9% and 79.9% of deaths among individuals over the age of 65 took place in medical facilities, respectively, indicating that the proportion of elderly

dying in medical facilities, including long-term care hospitals, is increasing [2,3]. Nurses in long-term care hospitals interact with patients experiencing physical, psychological, and spiritual pain as a part of their job and form close relationships with patients and their family members after spending long periods of time with them, having an important influence on patients and their family members [4]. Elderly patients hospitalized in long-term care hospitals are often of very advanced age, have severe chronic diseases such as cancer, and spend the rest of their lives in long-term care hospitals [5]. As a result, the increasing proportion of deaths in long-term care hospitals has led to nurses caring for greater numbers of elderly patients at the end of life. Therefore, nurses in long-term care hospitals

are required to provide end-of-life care throughout the death process.

End-of-life care is provided to patients with terminal illnesses and their family members and is defined as comprehensive care involving physical, psychological, and spiritual care to help patients face the last moment of their lives comfortably and with dignity as human beings [6]. The physical element of end-of-life care includes position changes, oral care, and nutrition care. Psychological care refers to treating patients kindly with a smile, being with patients when they wish, and holding patients' hands or touching their shoulders. Spiritual care involves creating opportunities to talk with other patients or volunteers of the same religion, talking about the meaning and purpose of life together, and praying together [7]. For patients at the end of life and their family members to experience a comfortable death, it is important for nurses to provide systematic end-of-life care [8]. However, personnel and material resources are lacking in long-term care hospitals compared to general hospitals, which creates a focus on acute, intensive medical care that may exclude psychological or spiritual care. In many cases, comfortable and respectful end-of-life care is not provided [9]. Therefore, it is necessary to understand the end-of-life care performance of nurses employed at long-term care hospitals.

End-of-life care performance depends on how nurses perceive death; specifically, awareness of good death was found to be associated with end-of-life care performance [10]. Good death refers to accepting death, maintaining positive relationships, feeling closeness through spiritual faith and support, having a sense of control over the body and mind, not feeling pain or suffering physically or psychologically, and having clinical symptoms that do not prolong death [11]. Many nurses experience stress due to feeling pressure, fear, and anxiety in performing end-of-life care because their own perceptions of death are not fully developed [12]. Previous studies reported that nurses who were highly aware of good death had higher levels of end-of-life care performance [10,13]. Therefore, in order for nurses to provide quality end-of-life care and help patients die comfortably, how nurses perceive death is important [11]. It is thus necessary to understand nurses' awareness of good death.

Attitudes toward end-of-life care are also associated with

end-of-life care performance. Attitudes toward end-of-life care refer to the positive or negative perception or feelings toward providing physical, psychological, and spiritual care for terminal patients and their family members [14]. Positive attitudes toward end-of-life care involve nurses recognizing their role in end-of-life care, having knowledge about end-of-life care, recognizing the benefits of end-of-life care, and being ready to comfortably discuss end-of-life care with patients and their family members [15]. Nurses' attitudes toward end-of-life care influence their ability to care for terminal patients and their family members [15], and a positive attitude toward end-of-life care allows nurses to perform end-of-life care to a greater extent [16]. Therefore, in order to cultivate more favorable attitudes toward end-of-life care among nurses and to improve end-of-life care performance for terminal patients and their family members, it is important to understand nurses' attitudes toward end-of-life care.

Summarizing previous studies, end-of-life care performance had a positive correlation with awareness of good death [13] and attitudes toward end-of-life care [16]. Furthermore, awareness of good death [10] and attitudes toward end-of-life care [16] were meaningful factors that influenced end-of-life care performance. It has been reported that awareness of good death and attitudes toward end-of-life care are important factors for end-of-life care performance, but few studies have considered both factors together. To our best knowledge, no previous studies have investigated the relationships among these three variables in nurses in long-term care hospitals who frequently interact with elderly terminal patients at the end of their lives. Therefore, this study aimed to investigate the correlations of awareness of good death and end-of-life care attitudes with performance among nurses in long-term care hospitals and to gain an understanding of the factors that influence end-of-life care performance to provide formative materials necessary to develop an end-of-life care education program applicable to long-term care hospitals.

## 2. Purpose

The aim of this study was to determine the effects of awareness of good death and attitudes toward end-of-life care on end-of-life care performance. The specific aims were as follows:

1) To investigate participants' general characteristics, awareness of good death, and attitudes toward and performance of end-of-life care

2) To explore differences in awareness of good death and attitudes toward and performance of end-of-life care according to participants' general characteristics

3) To investigate the correlations among awareness of good death and attitudes toward and performance of end-of-life care

4) To identify factors that influenced end-of-life care performance

## METHODS

### 1. Study design

This descriptive study was conducted to understand the level of awareness of good death, attitudes towards end-of-life care, and performance of end-of-life care among nurses employed at long-term care hospitals and to identify factors that influenced end-of-life care performance.

### 2. Study participants

The participants of this study were nurses who worked at six long-term care hospitals in B metropolitan city and met the following eligibility criteria:

- Working at long-term care hospitals with more than 200 beds in B metropolitan city listed on the Health Insurance Review and Assessment Service website ([www.hira.or.kr](http://www.hira.or.kr))
- Having worked at long-term care hospitals for longer than 3 months
- Understanding the purpose of this study and agreeing to participate

Nurses who did not directly provide care for patients due to administrative duties or those who worked at hospitals not certified by the Korea Institute for Healthcare Accreditation due to having been established for less than 1 year were excluded from the study. The sample size for this study was calculated to be 131 for multiple regression analysis with a modest effect size of 0.15, a significance level of 0.05, a power of 0.80, and 13 variables using G\*Power 3.1.9.2. Taking into account a possible dropout rate of 20%, 160 surveys were

distributed, and 155 were returned. After excluding eight questionnaires with missing or inappropriate answers, 147 responses were used for the final data analysis.

### 3. Study tools

#### 1) Awareness of good death

Awareness of good death was measured using the Concept of a Good Death Measure developed by Schwartz et al. [11] for medical professionals that was translated by Jeong [17]. This scale is composed of 17 items, with subfactors of sense of closure (9 items), personal control (3 items), and clinical signs (5 items). To use the tool, the developer was contacted through email and gave approval after the use of the tool in this study was explained and a contract fee was paid. The responses to each item are measured on a 4-point Likert scale from "not important at all" (1 point) to "very important" (4 points), with a higher score indicating greater awareness of good death. The Cronbach's  $\alpha$  reported by Schwartz et al. [11] was 0.62~0.83, and the Cronbach's  $\alpha$  in this study was 0.88.

#### 2) Attitudes toward end-of-life care

Attitudes toward end-of-life care were measured using the Frommelt Attitudes toward Nursing Care of the Dying scale developed by Frommelt [14] for nurses, which was later translated by Cho and Kim [18]. This scale is composed of a total of 30 items with 20 items on attitudes toward terminal patients and 10 items on attitudes toward patients' family members. Each item is measured on a 4-point scale from "not at all" (1 point) to "very much" (4 points), and negatively worded items are reverse-scored. Higher scores indicate more positive attitudes toward end-of-life care. Cronbach's  $\alpha$  was 0.86 in the study of Cho and Kim [18], and the Cronbach's  $\alpha$  in this study was 0.76.

#### 3) End-of-life care performance

End-of-life care performance was measured using an end-of-life care performance tool developed by Park and Choi [7] for nurses. This scale is composed of 22 items with eight items in the physical subscale, eight items in the psychological subscale, and six items in the spiritual subscale. Each item was measured using a 4-point Likert scale from "not at all" (1 point) to "always" (4 points), and higher scores indicated

greater end-of-life care performance. Cronbach's  $\alpha$  in the study of Park and Choi [7] was 0.93, and Cronbach's  $\alpha$  in this study was 0.92.

#### 4. Data collection

This study was conducted after obtaining approval from the institutional review board of D university (IRB No.2-104709-AB-N-01-201706\_HR-029\_02). Convenience sampling was carried out in six long-term care hospitals in B metropolitan city with more than 200 beds that had been certified by the Korea Institute for Healthcare Accreditation (in accordance with the study's eligibility criteria). The nursing department of the selected long-term care hospitals was called, the purpose and methods of the study were explained, and approval was sought. Data collection took place from August 10 to 22, 2017. The researcher visited the selected hospitals to distribute the surveys and an informed consent form, which contained information on the content of the study, the purpose of the study, data privacy, and confidentiality. The informed consent form stated that the survey was to be completed voluntarily and that participants could discontinue their participation at any time. Surveys were self-reported, and completion took around 10 minutes. Small tokens of appreciation were given to participants after they completed the survey.

#### 5. Data analysis

The data were analyzed using SPSS for Windows version 26.0 (IBM Corp., Armonk, NY, USA).

1) The general characteristics of participants were analyzed using descriptive statistics including frequency, percentage, mean, and standard deviation.

2) Differences in awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care according to participants' general characteristics were analyzed using the t-test and analysis of variance, as well as the Scheffé test for post-hoc testing.

3) Levels of awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care were analyzed using mean and standard deviation.

4) Correlations among awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care were analyzed using Pearson correlation coefficients.

5) In order to identify factors that influenced performance of end-of-life care, multiple stepwise regression analysis was conducted.

## RESULTS

### 1. Awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care according to participants' general characteristics

The average age of participants in this study was 41.91 years. Most participants were married (72.1%). 63.3% were religious, and 63.3% had graduated from a 3-year college. General nurses accounted for 69.4% of the total sample. The average length of clinical experience was 12.98 years, and 82.3% of the participants had 5 or more years of experience. The majority (72.8%) reported that they had not experienced the death of a family member or acquaintance in the past year. The average length of end-of-life care experience was 3.24 years, and 50.3% had less than 2 years of experience. A minority of the participants (38.1%) had received end-of-life care education, while 61.9% had not. Those who had received end-of-life care education reported 8.97 hours of education on average, and 66.7% had received 8 hours or less of education.

Awareness of good death showed significant differences by age, marital status, religion, work position, clinical experience, and end-of-life care experience. In the post-hoc analysis, awareness of good death was found to be higher in those aged 40 and above than in those younger than 30 years of age ( $F=5.87$ ,  $P=0.001$ ). Awareness of good death was also higher among participants who were married ( $t=-4.53$ ,  $P<0.001$ ) and religious ( $t=2.73$ ,  $P=0.008$ ). Charge nurses ( $F=6.28$ ,  $P=0.002$ ), participants with more than 5 years of clinical experience ( $t=-3.32$ ,  $P=0.001$ ), and those with more than 2 years of end-of-life care experience ( $t=-2.05$ ,  $P=0.042$ ) had significantly higher awareness of good death.

Attitudes toward end-of-life care showed significant differences according to marital status, clinical experience, end-of-life care experience, having received end-of-life care education, and the length of end-of-life care education that was received. Relative to their respective counterparts, attitudes toward end-of-life care were more positive among partici-

**Table 1.** Awareness of Good Death, End-of-Life Care Attitudes, and End-of-Life Care Performance According to General Characteristics (N=147).

Characteristics	Categories	n (%) or Mean ± SD	Awareness of good death		End-of-life care attitudes		End-of-life care performance	
			Mean ± SD	F/t (P)	Mean ± SD	F/t (P)	Mean ± SD	F/t (P)
Age (yr)	< 30 <sup>a</sup>	22 (15.0)	2.74±0.47	5.87 (0.001)	2.82±0.23	1.66 (0.175)	2.62±0.48	15.54 (<0.001)
	30~39 <sup>b</sup>	44 (29.9)	3.02±0.39	(c,d>a)	2.87±0.30		2.88±0.39	(c d>a)
	40~49 <sup>c</sup>	44 (29.9)	3.14±0.35		2.81±0.30		2.95±0.41	
	≥ 50 <sup>d</sup>	37 (25.2)	3.13±0.41		2.95±0.28		3.10±0.41	
		41.91 ± 10.55						
Marital status	Single	41 (27.9)	2.81±0.43	-4.53 (<0.001)	2.76±2.26	-2.83 (0.005)	2.73±0.45	-3.26 (0.001)
	Married	106 (72.1)	3.13±0.38		2.90±0.28		2.98±0.41	
Religion	Yes	93 (63.3)	3.12±0.36	2.73 (0.008)	2.88±0.31	0.79 (0.431)	2.93±0.42	0.68 (0.500)
	No	54 (36.7)	2.91±0.47		2.84±0.23		2.88±0.45	
Education level	College	93 (63.3)	3.08±0.38	1.40 (0.163)	2.83±0.23	-1.83 (0.071)	2.85±0.40	-2.10 (0.038)
	≥ University	54 (36.7)	2.98±0.48		2.93±0.35		3.01±0.47	
Position	Nurse <sup>a</sup>	102 (69.4)	2.97±0.41	6.28 (0.002)	2.84±0.28	2.75 (0.067)	2.85±0.42	7.05 (0.009)
	Charge nurse <sup>b</sup> Head nurse	21 (14.3) 24 (16.3)	3.28±0.32 3.14±0.46	(b>a)	3.00±0.33 2.85±0.26		3.04±0.46 3.07±0.39	
Total clinical experience (yr)	<5	26 (17.7)	2.80±0.40	-3.32 (0.001)	2.75±0.25	-2.24 (0.027)	2.77±0.43	2.13 (0.037)
	≥5	121 (82.3)	3.09±0.41		2.89±0.29		2.68±0.50	
		12.98 ± 8.26						
Experienced the death of a family member or acquaintance within 1 year	Yes	40 (27.2)	3.04±0.38	-0.09 (0.926)	2.87±0.23	0.09 (0.932)	2.92±0.50	0.07 (0.941)
	No	107 (72.8)	3.04±0.44		2.87±0.30		2.91±0.42	
End-of-life care experience (yr)	<2	74 (50.3)	2.97±0.40	-2.05 (0.042)	2.81±0.25	-2.18 (0.031)	2.88±0.45	-1.92 (0.057)
	≥2	73 (49.7)	3.11±0.43		2.92±0.31		2.98±0.43	
		3.24 ± 4.63						
Participation of end-of-life care education	Yes	56 (38.1)	3.06±0.42	0.41 (0.685)	2.99±3.32	4.16 (<0.001)	2.98±0.45	1.56 (0.120)
	No	91 (61.9)	3.03±0.42		2.79±0.23		2.87±0.42	
End-of-life care education (hour)	<8	98 (66.7)	3.05±0.42	0.17 (0.866)	2.81±0.23	-2.89 (0.005)	2.73±0.43	-0.50 (0.687)
	≥8	49 (33.3)	3.03±0.42		2.97±0.34		2.80±0.47	
		8.97 ± 29.00						

pants who were married ( $t=-2.83, P=0.005$ ), had more than 5 years of clinical experience ( $t=-2.24, P=0.027$ ), had more than 2 years of end-of-life care experience ( $t=-2.18, P=0.031$ ), had received end-of-life care education ( $t=4.16, P<0.001$ ), and had received more than 8 hours of end-of-life care education ( $t=-2.89, P=0.005$ ).

End-of-life care performance showed meaningful differences by age, marital status, education level, work position, and clinical experience. The level of end-of-life care performance was higher in participants aged 40 and above than in those younger than 30 years of age ( $F=15.54, P<0.001$ ). The level of end-of-life care performance was also higher for participants who were married ( $t=-3.26, P=0.001$ ), had graduated from university or more ( $t=-2.10, P=0.038$ ), and had less than 5 years of clinical experience ( $t=2.13, P=0.037$ ). A post-hoc analysis of work position did not reveal statistically significant differences ( $F=7.05, P=0.009$ ) (Table 1).

## 2. Levels of awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care among participants

Participants' average score for awareness of good death was

**Table 2.** Levels of Awareness of Good Death, End-of-Life Care Attitudes, and End-of-Life Care Performance (N=147).

Variables	Subscales	Mean ± SD	Min	Max
Awareness of good death		3.04 ± 0.42	1.71	3.93
	Sense of closure	3.19 ± 0.39	2.00	4.00
	Personal control	2.89 ± 0.67	1.00	4.00
	Clinical signs	3.04 ± 0.45	1.80	4.00
End-of-life care attitudes		2.86 ± 0.28	2.30	3.76
End-of-life care performance		2.91 ± 0.43	1.78	4.00
	Physical aspect	3.03 ± 0.48	2.00	4.00
	Psychological aspect	3.00 ± 0.51	1.50	4.00
	Spiritual aspect	2.05 ± 0.68	1.58	4.00

**Table 3.** Correlations between Awareness of Good Death, End-of-Life Care Attitudes, and End-of-Life Care Performance (N=147).

Variables	Awareness of good death	End-of-life care attitudes
	r (P)	r (P)
End-of-life care attitudes	0.18 (0.033)	
End-of-life care performance	0.30 (<0.001)	0.22 (0.007)

3.04 ± 0.42 out of 4. The scores for the subscales were 3.19 ± 0.39 for sense of closure, 3.04 ± 0.45 for clinical signs, and 2.89 ± 0.67 for personal control. The average score for attitudes toward end-of-life care was 2.86 ± 0.28 out of 4, and that for end-of-life care performance was 2.91 ± 0.43 out of 4. The average score for the physical subscale was 3.03 ± 0.48, that for the psychological subscale was 3.00 ± 0.51, and that for the spiritual subscale was 2.05 ± 0.68 (Table 2).

## 3. Correlations among participants' awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care

End-of-life care performance showed positive correlations with awareness of good death ( $r=0.30, P<0.001$ ) and attitudes toward end-of-life care ( $r=0.22, P=0.007$ ) (Table 3).

## 4. Factors influencing participants' end-of-life care performance

In order to identify factors that influenced end-of-life care performance among nurses in long-term care hospitals, multiple stepwise regression analysis was conducted. Tolerance and the variance inflation factor (VIF) were calculated by testing multicollinearity among independent variables. The tolerance values were all above 0.1, ranging from 0.573 to 0.863, and the VIF values were all below 10.0, ranging from 1.071 to 1.745, demonstrating no multicollinearity among independent variables. The Durbin-Watson statistic was close to 2, at 1.60, showing no autocorrelation. Tests of residual assumptions demonstrated that linearity, normality of error terms, and the assumption of equal variance were also satisfied. The independent variables that were statistically significantly associated

**Table 4.** Factors Influencing End-of-Life Care Performance (N=147).

Variables	B	S.E	$\beta$	t	P
(Constant)	1.82	0.25		7.38	<0.001
Awareness of good death	0.27	0.08	0.26	3.20	0.002
Education level (≥university)	0.19	0.07	0.21	2.73	0.007
Age (≥30) (yr)	0.25	0.10	0.21	2.58	0.011
End-of-life care attitudes	0.26	0.11	0.17	2.29	0.048

F(P)=9.76 (<0.001), R<sup>2</sup>=0.190.

with end-of-life care performance in the univariate analysis, which were age, marital status, education level, work position, clinical experience, awareness of good death, and attitudes toward end-of-life care, were included in multiple regression analysis. Categorical variables, such as age, marital status, education level, work position, and clinical experience, were coded as dummy variables for analysis.

The main predictive factors of end-of-life care performance were awareness of good death ( $\beta=0.26$ ,  $P=0.002$ ), education level ( $\beta=0.21$ ,  $P=0.007$ ), age ( $\beta=0.21$ ,  $P=0.011$ ), and attitudes toward end-of-life care. In total, 19.0% of the variance was explained by these variables in a statistically significant way ( $F=9.76$ ,  $P<0.001$ ) (Table 4).

## DISCUSSION

This study explored awareness of good death, attitudes toward end-of-life care, and performance of end-of-life care among nurses in long-term care hospitals and aimed to identify factors that influenced end-of-life care performance.

In this study, the average score of awareness of good death among nurses in long-term care hospitals was 3.04 out of 4, indicating a higher than moderate level. This score is a bit lower than the average of 3.13 documented in a study among nurses in long-term care hospitals that used the same scale [1] and higher than the average of 2.4 documented in a study of nurses in general hospitals [19]. Awareness of good death may have been higher among nurses in long-term care hospitals since they have more experience caring for patients at the end of life, as the number of elderly patients dying in long-term care hospitals has increased [20]. Among the subfactors of awareness of good death, the highest score was found for sense of closure, followed in order by clinical signs and personal control, which aligns with previous studies with nurses in long-term care hospitals [1,13].

Sense of closure refers to the psychosocial and spiritual aspect of awareness of good death and is related to acceptance, positive relationships with others, and spiritual faith and support [11]. The results indicate that the nurses in long-term care hospitals placed the greatest importance on the psychosocial and spiritual aspects of helping patients and their family members experience a comfortable death by empathizing

with them. Furthermore, there were meaningful differences in awareness of good death by age, religion, marital status, work position, clinical experience, and end-of-life care experience. Nurses who are married, hold higher positions, and are older (with more clinical and end-of-life care experience) generally have more experience with death, which may lead to a higher awareness of good death. This result can be interpreted in line with previous studies according to which the number and time of deaths experienced can influence awareness of good death [11].

The average score for attitudes toward end-of-life care among nurses in long-term care hospitals in this study was 2.86 out of 4, which is higher than average. However, this score is lower than the score of 2.98 reported in a study of intensive care unit nurses at teaching hospitals [21] and the score of 2.95 in a study of nurses at general hospitals [22]. Based on previous studies showing that end-of-life care education positively changed attitudes toward end-of-life care [14], this result may be due to long-term care hospitals having less frequent and more irregular end-of-life-related education than general hospitals. In fact, in this study, attitudes toward end-of-life care were significantly more positive among nurses who had received end-of-life care education and if the training had lasted for more than 8 hours. Therefore, end-of-life education must be strengthened in long-term care hospitals in order to change attitudes toward end-of-life care positively. End-of-life care education includes accepting death as a part of life and caring for patients and their family members so that they can maintain their dignity during the dying process [18]. Such education is more effective when it caters to the educational needs of nurses not only in terms of basic knowledge and skills for end-of-life care, but also communication and human relationships [23]; therefore, practical education should be provided after first understanding nurses' educational needs.

The mean score for end-of-life care performance among nurses in long-term care hospitals was 2.91 out of 4 in this study. This score is higher than that of 2.67 reported in a study of nurses who cared for terminal patients in a general ward [24] and 2.71 in a study with nurses in tertiary hospitals [25]. This finding may reflect a higher level of proficiency at end-of-life care, since nurses in long-term care hospitals perform more end-of-life-care due to the increasing trend of deaths in

long-term care hospitals. The highest score was found for the physical aspect of care, followed in order by the psychological aspect and spiritual aspect, and the spiritual subscale had a notably lower score than the others. This finding is similar to results from previous studies conducted at long-term care hospitals that showed the highest scores for the physical subscale and the lowest scores for the spiritual subscale [20].

A reason why the level of end-of-life care performance was highest in the physical subscale among the types of end-of-life care provided by nurses in long-term care hospitals might be that caregivers are not present at long-term care hospitals, where most patients are elderly and experience difficulties in conducting everyday activities independently. Thus, patients rely more heavily on physical nursing care, leading to more work in the physical aspect of care. The level of end-of-life care performance in the spiritual aspect was very low in this study, which could be related to long-term care hospitals lacking personnel and resources. Therefore, balanced end-of-life care should be performed by preparing an end-of-life care protocol that includes spiritual care, which can be overlooked when nurses in long-term care hospitals perform end-of-life care.

The level of end-of-life care performance meaningfully differed by age, marital status, education level, work position, and clinical experience. A post-hoc analysis of work position did not show a significant difference. The level of end-of-life care performance was higher among those aged 40 and above than among those aged 30 and below and among those who were married than among those who were unmarried. These findings can be interpreted as reflecting the same basic trend, since nurses are more likely to get married as they become older. The same findings were reported in a study of intensive care unit nurses [26]. This result may be due to nurses becoming more capable of performing end-of-life care as they become more empathetic toward patients as they age and experience more in life. The level of end-of-life care performance was also higher among nurses who had graduated from a 4-year university than among those who had graduated from a 3-year college, which is similar to the result of a study conducted among nurses at tertiary hospitals that showed higher levels of end-of-life care performance to be associated with graduate education (versus university education) and university

education (versus 3-year college education) [25].

It can be inferred that a higher level of education translates to more opportunities to receive education related to end-of-life care, which leads to an increased understanding of death and better end-of-life care performance. The level of end-of-life care was higher among nurses with less than 5 years of clinical experience than among those with more than 5 years of clinical experience. This finding contradicts results from previous studies of nurses at long-term care hospitals [27] and tertiary hospitals [16], which found higher levels of end-of-life care performance when nurses had more clinical experience. This discrepancy may reflect differences in the nursing service delivery system such as the support system and patient allocation system between the hospitals where the participants in this study worked and those of the previous studies. Therefore, future studies should investigate differences in end-of-life care performance not only in terms of clinical experience, but also according to hospital characteristics.

The multiple regression analysis conducted to identify factors that influenced end-of-life care performance among nurses in long-term care hospitals showed that age, education level, awareness of good death, and attitudes toward end-of-life care had significant effects. More specifically, an age above 30, a level of education of 4-year university graduation or above, a high level of awareness of good death, and positive attitudes toward end-of-life care were associated with a higher level of end-of-life care. Awareness of good death had a significant effect on end-of-life care performance, which is similar to the results from previous studies of nurses in general hospitals [10] and those who provided care in long-term care hospitals [13] that reported higher level of end-of-life care performance when awareness of good death was high. Considering the central role of nurses in caring for terminal patients [28], nurses in long-term care hospitals should establish their own value system regarding good death, which will directly influence their end-of-life care performance.

Attitudes toward end-of-life care also influenced end-of-life care performance among nurses in long-term care hospitals. Previous studies [16] also reported that nurses with positive attitudes toward end-of-life care were more effective in performing end-of-life care to meet the needs of terminal patients. That is, the level of end-of-life care performance was



higher when nurses were well aware of their role, recognized the benefits of end-of-life care based on relevant knowledge, and were ready to discuss end-of-life care with patients and family members comfortably. This finding suggests that a positive attitude toward end-of-life care among nurses in long-term care hospitals is critical for performing end-of-life care effectively. Therefore, in order to strengthen the performance of end-of-life care by nurses in long-term care hospitals, an end-of-life care education program including sections that positively reinforce attitudes toward end-of-life care should be developed and implemented.

In summary, in order for nurses in long-term care hospitals to perform end-of-life care systematically, understanding nurses' awareness of good death and attitudes toward end-of-life care, increasing awareness of good death, and cultivating positive attitudes toward end-of-life care are necessary. Moreover, efforts to develop an end-of-life care program for nurses in long-term care hospitals should include educational content on awareness of good death and positive attitudes toward end-of-life care, which significantly influence end-of-life care performance. Regular end-of-life care education and training suitable for the long-term care hospital system is necessary.

This study is meaningful in that it provides foundational information necessary to develop end-of-life care programs that can be implemented in long-term care hospitals by investigating the relationships among awareness of good death and attitudes toward and performance of end-of-life care among nurses who are responsible for end-of-life care in long-term care hospitals, which are increasingly more widespread. However, this study was conducted with nurses working at six long-term care hospitals in a single area, so there is a limitation in applying the results to all long-term care hospitals.

Further research including nurses from more long-term care hospitals is suggested. Moreover, existing studies have pointed out the importance of end-of-life care education, but this study only surveyed whether nurses received end-of-life care education through supplemental or continuing education and did not include details on the characteristics of end-of-life care education (content, frequency, and evaluation). Therefore, future studies should include such information.

## CONFLICT OF INTEREST

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

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Conceptualization: SHK, EYK. Data curation: SHK. Formal analysis: SHK. Funding acquisition: SHK. Investigation: SHK, EYK. Methodology: SHK, EYK. Project administration: SHK. Resources: SHK. Software: EYK. Supervision: EYK. Validation: SHK, EYK. Visualization: SHK, EYK. Writing – original draft: SHK, EYK. Writing – review & editing: SHK, EYK.

## SUPPLEMENTARY MATERIALS

Supplementary materials can be found via <https://doi.org/10.14475/jhpc.2021.24.1.26>.

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