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# Factors Associated with Person-Centered Care among Hospice Nurses

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Purpose: The purpose of this study was to examine person-centered care, nursing professionalism, the nursing work environment, and empathy capacity among hospice ward nurses and to identify the factors affecting person-centered care. Methods: Data were collected using a self-report questionnaire completed by 120 nurses at 30 inpatient hospice institutions in South Korea from August 24, 2020 to September 8, 2020. The independent t-test, one-way analysis of variance, and Pearson correlation analysis were conducted using SPSS version 26.0. Results: The scores were 3.76±0.45 for person-centered care, 3.58± 0.47 for nursing professionalism, 3.24 ± 0.57 for the nursing work environment, and 4.00 ± 0.46 for empathy capacity. There were positive correlations between the variables. Factors that influenced the person-centered care of hospice nurses were being a manager ( $\beta = 0.20$ , P=0.002), high nursing professionalism ( $\beta$ =0.20, P=0.012), a better nursing work environment ( $\beta$  =0.15, P=0.033), and high empathy capacity ( $\beta$  =0.51, P<0.001). The explanatory power was 65.3%. Conclusion: To reinforce the person-centered care competency of hospice nurses, it is necessary to improve nursing professionalism, the nursing work environment, and empathy competency. Opportunities for nurses to practice independently must be expanded for nurses to develop nursing professionalism. Sufficient nursing personnel and material resources must be provided to nurses to cultivate a positive work environment. Empathy should be improved by implementing integrated education programs that include nursing practice situations.

Key Words: Patient-centered care, Hospices, Palliative care, Nurses, Terminally-ill

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# INTRODUCTION

#### 1. Background

In 2001, the Institute of Medicine defined patient-centered care as the most fundamental factor for determining the quality of medicine and patient safety [1], and person-centered care is now becoming established as a core component of the provision of medical services [2]. Person-centered care refers to the concept of respecting and responding to the demands and

values of individual patients in all clinical decision—making processes to provide comprehensive care that enables therapeutic communication between medical personnel and patients based on mutual trust and information—sharing that satisfies the physical, mental, and social demands of patients [3].

The ultimate goal of terminal patient nursing is to provide patients and their families with holistic care in order to maintain their human dignity and quality of life so that they can experience a peaceful death [4]. The proportion of terminal patients who used inpatient hospices increased from 9.1% in

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2009 to 24.3% in 2019 [5], and this increasing trend is expected to continue. Hospice nurses perform various activities such as responding to the personal preferences and demands of terminal patients [6], caring for patients and their families, managing bereaved families, and administering available community services [7]. To provide terminal care in response to different demands, careful planning to satisfy individual patients is required [4,6], and person-centered care, which includes the practice of holistic nursing for patients and their families, is necessary.

The occupational commitment of nurses and a strong belief in the value of one's duties are some of the characteristics of nurses who practice person-centered care [3]. Nursing professionalism is a concept that incorporates perceptions about nursing, nurses, and their beliefs to describe a systematic view of nursing, the work ethics of nurses undertaking nursing activities, and the performance of the job itself [8]. Since it is connected to the values of nursing, nursing professionalism is a core element in the practice of person-centered care. Positive nursing professionalism enhances nurses' problem-solving abilities in the clinical field [9] and enables quality nursing care [6]. Since hospice nurses must take nursing care seriously and have a certain amount of confidence in their abilities to practice person-centered care for terminal patients [6], the nursing professionalism of nurses who provide care for terminal patients requires further investigation.

The nursing work environment refers to every element of the nursing environment, including nurses' participation in policy-related tasks and steps taken to ensure an appropriate supply of personnel and resources to provide quality nursing care [10]. Environmental components such as the culture and tasks of organizations to which nurses belong and that provide care have a major impact on working nurses [3]. The nursing work environment is also associated with the quality of care provided by nurses [11]. Factors related to the work environment, such as the ability to provide optimal care to patients on their deathbeds, ensuring a manageable workload, highquality administrative support to facilitate quality nursing care, and cultivating cooperative relationships with colleagues, can have a positive influence on the person-centered care attitudes of medical personnel who care for terminal patients, including nurses [12].

The empathy capacity of nurses refers to nurses' occupational knowledge combined with their professional capacity to empathize with, respect, and effectively communicate with patients and their families [13]. Empathy capacity has a positive effect on care activities by ensuring that nurses are sensitive to changes in subjects so that they can take immediate action and are able to communicate effectively [14]. In addition, it plays an important role in ensuring quality nursing care [13]. A higher capacity to empathize with patients is associated with a higher likelihood of providing patients' desired level of care. It reduces psychological and emotional difficulties such as anxiety that occur during the treatment process and helps the immune system, which has a positive impact on treatment results [15]. When care is provided to terminal patients, trust and reciprocity between nurses and patients are associated with the quality of nursing care [16]. Thus, the empathy capacity of hospice ward nurses and its relationship with person-centered care require investigation.

Since factors such as occupational responsibility and commitment, work environment, maturity, and relationship with colleagues and patients [6,12] work in combination to affect the attitudes of medical personnel as they care for terminal patients, it is essential to investigate the factors that affect the practice of person-centered care among nurses. Previous studies on person-centered care, however, have mainly focused on nurses who work at nursing hospitals [2,16]. Therefore, based on the person-centered theory presented by McCormack and McCance [3], this study aimed to investigate the level of person-centered care provided by nurses who work in hospice wards and identify the effects of nursing professionalism, the nursing work environment, and empathy capacity on nurses' relationships with person-centered care in order to generate basic data for devising future interventions to improve the practice of person-centered care by nurses at hospice wards.

#### 2. Purpose

The purpose of this study was to investigate person-centered care, nursing professionalism, the nursing work environment, and empathy capacity among hospice ward nurses and to identify the factors that influence person-centered care.



# **METHODS**

#### 1. Study design

This descriptive investigation study was conducted to identify the factors that affect the person-centered care of hospice ward nurses.

#### 2. Participants

The participants were 120 nurses who worked in inpatient hospices located in Seoul, Gyeonggi Province, Chungcheongnam Province, Gangwon Province, and Jeolla Province and cared for terminal patients. The participants understood the purpose of this study and agreed in writing to voluntarily participate in the survey. The number of participants was calculated using G\*Power 3.1.9.7. The minimum number of samples required for multiple regression analysis with a significance level of 0.05, a medium effect size of 0.15, a statistical power of 0.90, and five predictor variables was 116. Questionnaires were distributed to 128 participants given an expected dropout rate of 10%, and there were 120 final participants after excluding eight participants who submitted insufficient or incomplete survey responses.

### 3. Study tools

#### 1) Person-centered care

The person-centered care of medical personnel in various medical environments was investigated using the Person-Centered Practice Inventory-Staff developed by Slater et al. [17] and the Korean version of Person-Centered Practice Inventory-Staff [18] for which the reliability and validity were confirmed by Kim and Tak. This instrument consists of 51 total items spanning three subcategories with answers given on a 5-point Likert scale. In particular, it contains 18 items on prerequisites (professionally competent, developed interpersonal skills, being committed to the job, knowing self, and clarity of beliefs and values), 25 items on the care environment (skill mix, shared decision-making systems, effective staff relationships, and power sharing, potential for innovation and risk taking, the physical environment, and supportive organizational systems), and eight items on the person-centered process (working with patient beliefs and values, shared decision-making, engagement, having sympathetic presence, and providing holistic care). Each item is answered on a scale of 1 (strongly disagree) to 5 (strongly agree), and a higher overall score indicates a higher level of person–centered care. The Cronbach's  $\alpha$  for the reliability of the instrument overall was .95, and it was 0.84 for the prerequisites subcategory, 0.91 for the environment subcategory, and 0.91 for the process category. In this study, Cronbach's  $\alpha$  for the reliability of the instrument overall was 0.96, 0.89 for the prerequisites subcategory, 0.95 for the environment subcategory, and 0.90 for the process subcategory.

#### 2) Nursing professionalism

Professionalism was measured using the nursing professional values scale developed by Yeun et al [8]. This scale consists of 29 total items spanning five subcategories, with answers given using a 5-point Likert scale. The subcategories include social awareness (eight items), self-concept of the profession (nine items), professionalism of nursing (five items), the role of nursing service (four items), and originality of nursing (three items). Answers are given on a scale of 1 (strongly disagree) to 5 (strongly agree), and a higher overall score indicates a higher level of nursing professionalism. Cronbach's  $\alpha$  for the reliability of the instrument just after development was 0.92 overall, 0.89 for the social awareness subcategory, 0.89 for the self-concept of the profession subcategory, 0.84 for the professionalism of nursing subcategory, 0.79 for the role of nursing service subcategory, and 0.74 for the originality of nursing subcategory. In this study, Cronbach's  $\alpha$  for the reliability of the instrument was 0.91 overall, 0.88 for the social awareness subcategory, 0.87 for the self-concept of the profession subcategory, 0.73 for the professionalism of nursing subcategory, 0.70 for the role of nursing service subcategory, and 0.64 for the originality of nursing subcategory.

#### 3) Nursing work environment

The nursing work environment was investigated using the Korean version of the Practice Environment Scale of Nursing Work Index (PES-NWI), a nursing measurement environment measurement instrument developed by Lake [19] that was translated by Cho et al. [20] and for which the validity and reliability were verified. This instrument consists of 29 total items spanning 5 subcategories with answers given using a 5-point



Likert scale. The subcategories included nurses' participation in hospital affairs (nine items); nursing foundations for quality of care (nine items); nurse managers' ability, leadership, and support of nurses (four items); staffing and resource adequacy (four items); and collegial nurse-physician relations (three items). Answers are given on a scale of 1 (strongly disagree) to 5 (strongly agree), and a higher score corresponds to a more positive nursing work environment. Cronbach's  $\alpha$  for the reliability of the Korean version of the PES-NWI was 0.93 overall; 0.84 for the nurses' participation in hospital affairs subcategory; 0.81 for the nursing foundations for quality of care subcategory; 0.80 for the nurse managers' ability, leadership, and support of nurses subcategory; 0.80 for the staffing and resource adequacy subcategory; and 0.81 for the collegial nurse-physician relations subcategory. Cronbach's  $\alpha$  for this study was 0.94 overall; 0.85 for the nurses' participation in hospital affairs subcategory; 0.82 for the nursing foundations for quality of care subcategory; 0.77 for the nurse managers' ability, leadership, and support of nurses subcategory; 0.84 for the staffing and resource adequacy subcategory; and 0.83 for the collegial nurse-physician relations subcategory.

#### 4) Empathy capacity

Empathy capacity was measured using the nurse empathy capacity measurement instrument developed by Lee and Seomun [21]. This instrument contains 17 total items on communication, sensitivity, and insight, with answers given using a 5-point Likert scale. Each item is answered on a scale of 1 (strongly disagree) to 5 (strongly agree), and a higher score indicates a higher empathy capacity. Cronbach's  $\alpha$  for the reliability of the instrument was 0.93 at the time of development and 0.91 in this study.

#### 4. Data collection and ethical considerations

The content and methods of this study were approved by the Institutional Review Board at K Hospital (KIRAMS 2021–08–004). Data were collected from August 21 to September 5, 2021. To collect the data, a researcher called the individual in charge at each inpatient hospice specified on the homepage of the Central Hospice Center of the National Cancer Center to explain the purpose and investigational methods of this study. The purpose and methods of the study were explained to par–

ticipants who agreed to participate in the study at 30 inpatient hospice institutions. All of the participants were informed that there would be no disadvantage if they declined to participate in the study, that they may withdraw from the study at any time, that the data would be processed on an anonymous basis, and that the collected data would be used solely for research purposes. Data were collected by mail or through an online survey (Google) from those who provided written informed consent to participate in the study, and a small gift was given to each subject in return for their participation.

#### 5. Data analysis

Data were analyzed using IBM SPSS Statistics for Windows, version 26.0 (IBM Corp., Armonk, NY, USA). General characteristics, person-centered care, nursing professionalism, the nursing work environment, and empathy capacity among the participants were presented in terms of the real number, percentage, mean, and standard deviation. Differences in person-centered care according to the demographic characteristics of the participants were analyzed using the independent t-test, the Mann-Whitney U test, one-way analysis of variance, and the Scheffé test. The relationships between each variable were identified using Pearson correlation coefficients, and the factors that influence person-centered care were identified using multiple regression analysis.

# **RESULTS**

# 1. General characteristics of participants

There were 111 female participants (92.5%), the mean age was 37.87 years, and 30~39 years old was the most–represented age group (n=39, 32.5%) in this study. There were 67 married participants (55.8%), and 68 participants (56.7%) were religious. A plurality of participants was graduates of 4–year nursing colleges (n=54, 45.0%), and 93 participants (77.5%) were hospice ward nurses. The mean total clinical experience was 12.79 years, and the group with more than 5 to less than 10 years of experience was the largest (n=31, 25.8%). The mean work experience in a hospice ward was 5.35 years, and the group with more than 2 years to fewer than 5 years of experience was the largest (n=38, 31.7%) (Table 1).



**Table 1.** Differences in Person–Centered Care According to General Characteristics (N=120).

Catanada	n (%)	Mean ± SD	Pe	erson centered care	
Categories		(Range)	Mean ± SD	t/F	Р
Gender					
Female	111 (92.5)		$3.74 \pm 0.44$	-1.17	0.245
Male	9 (7.5)		$3.93 \pm 0.66$		
Age (yr)		37.87 ± 9.70 (23~68)		3.01	0.033*
≤30 <sup>a</sup>	31 (25.8)	(25 00)	3.70±0.58		(d>b)
30~39 <sup>b</sup>	39 (32.5)		$3.65 \pm 0.40$		
40~49 <sup>c</sup>	34 (28.3)		$3.80 \pm 0.34$		
≥50 <sup>d</sup>	16 (13.3)		4.03 ± 0.45		
Marital status	,			-1.63	0.106
Unmarried	53 (44.2)		3.68 ± 0.48		
Married	67 (55.8)		$3.82 \pm 0.43$		
Religious				-0.05	0.963
No	52 (43.3)		$3.76 \pm 0.49$		
Yes	68956.7)		$3.76 \pm 0.43$		
Education level				2.58	0.080
Diploma	17 (14.2)		$3.68 \pm 0.38$		
Bachelor's	54 (45.0)		$3.68 \pm 0.52$		
Graduate school	49 (40.8)		$3.87 \pm 0.38$		
Position				-3.03	0.003
Nurse	93 (77.5)		$3.69 \pm 0.46$		
Manager	27 (22.5)		$3.98 \pm 0.38$		
Clinical experience (yr)		12.79±9.55 (0.25~37)		3.98	0.010*
<5ª	29 (24.2)	, ,	3.75±0.58		(d>b)
5 to < 10 <sup>b</sup>	31 (25.8)		3.58±0.37		
10 to < 20°	25 (20.8)		3.72±0.42		
≥20 <sup>d</sup>	35 (29.2)		3.95±0.36		
Experience at hospice and pall	iative care institutions (yr)	5.35±5.35 (0.17~37)		0.17	0.915
<2	33 (27.5)	,,	3.76±0.50		
2 to <5	38 (31.7)		3.79±0.48		
5 to < 10	30 (25.0)		3.74±0.41		
≥10	19 (15.8)		3.71 ± 0.40		

<sup>\*</sup>Scheffé test.

# Person-centered care, nursing professionalism, the nursing work environment, and empathy capacity among the participants

The mean score for person-centered care among the participants was 3.76 out of 5 points. The prerequisites and care environment for person-centered care each had an average score of 3.73, and the average score for the person-centered process subcategory was 3.94. The mean score for nursing professionalism was 3.58 out of 5 points. The subcategory of nursing

professionalism with the lowest mean score was the originality of nursing at 2.90 out of 5 points. The second-lowest score was social awareness at 3.33. The mean score for the nursing work environment was 3.24 out of 5 points. Among the subcategories, staffing and resource adequacy had the lowest score at 2.86, and the second-lowest score was nurses' participation in hospital affairs at 3.11. The mean score for empathy capacity was 4.00 out of 5 points (Table 2).



# 3. Differences in person-centered care according to general characteristics

The mean score for person-centered care was 4.65 among the participants aged  $30\sim39$  years, which was lower than the mean score of 4.03 among those aged 50 years and older (P=0.003). The average score among nurses was 3.69, which was lower than the mean score of 3.98 among nurse managers (P=0.003), and the group with more than 5 to fewer than 10 years of clinical experience had a mean score of 3.58, which was lower than mean score of 3.95 among those with 20 years of clinical experience or more (P=0.010) (Table 1).

**Table 2.** Scores for Patient–Centered Care, Nursing Professionalism, the Nursing Work Environment, and Empathy Capacity among the Participants (N=120).

Variables	Mean±SD
Person-centered care	3.76±0.45
Prerequisites	$3.73 \pm 0.46$
The care environment	$3.73 \pm 0.51$
Care processes	$3.94 \pm 0.57$
Nursing professionalism	$3.58 \pm 0.47$
Self-concept of the profession	$3.73 \pm 0.58$
Social awareness	$3.33 \pm 0.68$
Professionalism of nursing	$3.91 \pm 0.53$
Role of nursing service	$3.84 \pm 0.53$
Originality of nursing	$2.90 \pm 0.80$
Nursing work environment	$3.24 \pm 0.57$
Nurses' participation in hospital affairs	$3.11 \pm 0.65$
Nursing foundations for quality of care	$3.52 \pm 0.57$
Nurse managers' ability, leadership, and support of nurses	$3.40 \pm 0.66$
Staffing and resource adequacy	$2.86 \pm 0.84$
Collegial nurse-physician relations	$3.43 \pm 0.70$
Empathy capacity	4.00 ± 0.46

# Relationship between person-centered care, nursing professionalism, nursing work experience, and empathy capacity

Person-centered care had a significant static correlation with nursing professionalism (r=0.65, P<0.001), the nursing work environment (r=0.49, P<0.001), and empathy capacity (r=0.71, P<0.001). In other words, higher scores for nursing professionalism and nursing work corresponded to a higher level of person-centered care (Table 3).

#### 5. Factors affecting person-centered care

Multiple regression analysis was performed to examine the effects of age, position, and clinical experience, and different scores for person-centered care, nursing professionalism, nursing work experience, and empathy capacity were observed with significant relationships with person-centered care as independent variables based on the characteristics of the participants. The presence of autocorrelation between the error terms was examined before the analysis, and since the Durbin-Watson statistic was 2.02, which was close to 2, no autocorrelation was found in the error terms. According to an analysis of multicollinearity between the input independent variables,

**Table 3.** Correlation between Nursing Professionalism, the Nursing Work Environment, Empathy Capacity, and Person–Centered Care (N=120).

Variables	Nursing professionalism	Nursing work environment	Empathy capacity r (P)	
	r (P)	r (P)		
Nursing work environment	0.59 (<0.001)	-	-	
Empathy capacity	0.64 (<0.001)	0.46 (<0.001)	-	
Person-centered care	0.65 (<0.001)	0.49 (<0.001)	0.71 (<0.001)	

**Table 4.** Factors Influencing Person-Centered Care (N=120).

Variables	В	SE	β	t	Р
(Constant)	0.31	0.27	-	1.13	0.261
Age (yr)	0.00	0.00	-0.02	-0.19	0.848
Position (ref.=nurses)					
Manager/head nurse/dedicated nurse	0.22	0.07	0.20	3.19	0.002
Total career experiences (yr)	0.01	0.01	0.18	1.62	0.108
Nursing professionalism	0.20	0.08	0.20	2.54	0.012
Nursing work environment	0.12	0.06	0.15	2.16	0.033
Empathy capacity	0.50	0.07	0.51	7.22	<0.001

Durbin-Watson=2.02, F=38.37, P<0.001, R<sup>2</sup>=0.671, Adj-R<sup>2</sup>=0.653, Tolerance=0.23~0.72, VIF=1.39~4.33.



the tolerance was 0.23~0.72, which was greater than 0.1, and the variance inflation factor was 1.39~4.33, which was smaller than 10. Therefore, it was concluded that there was no multi-collinearity between the independent variables.

The factors that influenced person–centered care were having a managerial position ( $\beta$  =0.20, P=0.002), nursing profession–alism ( $\beta$  =0.20, P=0.012), the nursing work environment ( $\beta$  =0.15, P=0.033), and empathy capacity ( $\beta$  =0.51, P<0.001). In other words, being a manager rather than a nurse, higher nursing professionalism, a better nurse work environment, and higher empathy capacity were significantly associated with person–centered care, with an explanatory power of 65.3% (Table 4).

# **DISCUSSION**

This study was conducted to examine person-centered care, nursing professionalism, the nursing work environment, and empathy capacity among hospice nurses who care for terminal patients at inpatient hospice institutions and to identify the factors that influenced person-centered care.

This study found that the score for person-centered care was low among participants with more than 5 to fewer than 10 years of clinical experience and among nurses aged 30 to 39 years. Although this was similar to the results of a study of nurses at nursing hospitals conducted using a different instrument [16] in which nurses aged younger than 40 years had a lower mean person-centered care score than nurses aged 50 years or older, no differences according to clinical experience were observed in this study. Moreover, our results deviated from those of a previous study in which the level of personcentered care among nurses at nursing hospitals was found to differ according to age, position, and clinical experience. Since these results indicate that organizational culture has a greater influence on person-centered care than personal factors [16], further studies should be conducted on the level of personcentered care in addition to culture and leadership at institutions where hospice nurses work. The mean score for personcentered care in this study was 3.76, which was higher than that of general hospital nurses [18], meaning that nurses who care for terminal patients have a high awareness of personcentered care.

Among the subcategories of nursing professionalism, originality of nursing scored the lowest. Although this finding is similar to that of a previous study in which the mean score for the originality of nursing subcategory of nursing professionalism among primary health practitioners was the lowest [9], originality of nursing had the highest mean score among the nursing professionalism subcategories in a study of general hospital nurses [23]. These results are meaningful since the awareness of nursing professionalism differs according to the characteristics of organizations. To improve nursing professionalism, it is necessary to use an educational method that suits the characteristics of the organizations to which nurses belong. In addition, since the need to establish an environment in which nurses can practice independently and autonomously has been raised [24], policies to enable independent nursing for terminal patients should be routinely considered.

The mean score for the nursing work environment exceeded 2.5 points, which is the minimum score needed for the nursing work environment to be considered positive according to Lake [19]. Moreover, the mean score in this study was higher than that of nurses at comprehensive nursing service wards in general hospitals in South Korea [25], and hospice nurses are generally believed to perceive the working environment more positively. However, the mean score for staffing and resource adequacy was the lowest among the subcategories of the nursing work environment, which indicates that nurses perceived staffing and resource adequacy to be insufficient. Various components such as pain control for patients, education for family members of patients on their deathbeds, support from other colleagues who experienced patient deaths while providing nursing care for terminal patients, and other complex features can cause nurses to feel emotional pain, burden, and exhaustion [26]. Since nurses tend to experience emotional exhaustion more frequently if they feel that the nursing staffing is insufficient or have to perform non-nursing tasks [27], various strategies for maintaining an appropriate number of hospice nurses and ensuring staffing and resource adequacy to assist hospice nurses are necessary.

Given that the empathy capacity score of nurses in this study was higher than that of clinical nurses in a previous study [14], the empathy capacity of hospice nurses can be said to be higher than that of nurses in other departments. According to this



study, empathy capacity is the factor with the biggest influence on person-centered care, which a previous study that identified the factors influencing person-centered care also observed [28]. The empathy capacity of nurses plays an important role in appropriately managing stress associated with terminal care and performing terminal care [29]. Based on this result, plans should be prepared to manage the stress of hospice nurses that occurs when providing care to terminal patients and improve the empathy capacity of hospice nurses. Since the empathy capacity of nurses correlates to nurses' communication abilities and influences caregiving activities [14], training to improve the empathy capacity of hospice nurses, including their communication abilities, should be performed routinely. Since simulation training for various situations, including for addressing the physical symptoms of patients, can enhance the empathy capacity of medical personnel [30], hands-on training programs suited to the general situations of patients receiving hospice and palliative care are expected to improve nurses' empathy capacity.

The finding of this study that scores for nursing professionalism, the nursing work environment, and empathy capacity among the participants correlate to person-centered care is in line with the person-centered care theory of McCormack and McCance [3], which states that person-centered care is influenced by the internal and circumstantial factors of individuals. In addition, being a manager, higher nursing professionalism, a better nursing work environment, and higher empathy capacity were found to be factors that significantly affect personcentered care, and, among them, empathy capacity was identified as the main factor impacting person-centered care. Person-centered care includes respecting the values and beliefs of patients, involving patients in decision-making, respecting the opinions of patients, and providing various types of nursing care [3]. To provide person-centered care, the emotional intelligence of individuals, including their communication abilities, is an important factor in their relationships with patients [3], and it is necessary to continue to provide training programs that can help improve the emotional intelligence of hospice nurses so that they can provide effective personcentered care.

This study was conducted with hospice nurses to provide insight into the factors that influence person-centered care,

and the findings can be expected to be used as basic data for ensuring a work environment where nurses can provide effective person-centered care. In addition, this study is meaningful since it presented evidence that person-centered care can improve the quality of nursing care for terminal patients in the clinical field. Based on this study, it is necessary to conduct repeated studies on hospice nurses that consider factors other than nursing professionalism, nursing work experience, and empathy capacity, which are factors that were found to influence person-centered care. The limitation of this study is that it only considered the position of hospice nurses, who are care providers, to identify the factors that influence personcentered care. Thus, studies on person-centered care from the perspectives of patients and families who receive hospice nursing care are needed in the future. Moreover, studies to investigate the differences in person-centered care by nurses based on the characteristics of medical centers, such as the organizational cultures of the institutions where hospice nurses work, are needed. Based on the theory of person-centered care, studies on the relationship between person-centered care and the nursing results of patients should be conducted in the future, and programs to provide effective person-centered care should be developed.

# **CONFLICT OF INTEREST**

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

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# **AUTHOR'S CONTRIBUTIONS**

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



## SUPPLEMENTARY MATERIALS

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