

## Development of a Nursing Competence for End-of-life Care Scale in Nursing Homes

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### Key Words :

nursing home  
end-of-life care  
nursing competence  
scale

### ABSTRACT

Purpose: The aim of this study was to examine the reliability and validity of a scale developed to evaluate the degree of nursing competence for end-of-life care in nursing homes, and to determine the practicality of its application. Method: A total of 298 nurses working in nursing homes were evaluated in terms of their degree of nursing competence for end-of-life care in nursing homes. The data collected were subjected to confirmatory factor analysis and correlation analysis. Results: The average value of Cronbach's alpha coefficient for the reliability of the scale was 0.848, which confirmed internal consistency. Goodness of fit was verified via confirmatory factor analysis, and a significant correlation between the proposed scale and an existing scale was observed. Conclusion: Nursing competence for end-of-life service in nursing homes was evaluated in terms of 21 items relating to 5 factors identified as having reliability, construct validity, criterion-related validity and convergent validity. The results of evaluation regarding nursing competence for end-of-life service in nursing homes suggested general versatility in various facilities for the elderly.

### Introduction

Japan is today experiencing the social advancement of women, an increased number of elderly people living alone, and more situations in which elderly people are caring for even more elderly parents. Against such a background, demand is rising for nursing homes where elderly people with high-level care needs that family members are unable to meet can spend their final years with peace of mind and receive living support from medical and welfare specialists. To improve the quality of end-of-life care in nursing homes, Japan's government introduced a long-term care insurance point addition system in 2006 and made it compulsory for nursing homes to employ full-time nurses to be eligible for such addition. Thus, efforts to improve the quality of end-of-life care at nursing homes are essentially left in the hands of nurses.

Reports on related studies have noted that nursing home nurses exercise their assessment abilities by 1) predicting the need for end-of-life care based on circumstantial changes associated with reduced vitality in particular residents, resident predictions of their own passing, and prediction of the time of death based on observation of life-threatening physical issues experienced by residents and symptoms that indicate proximity to death (Takayama and Mizuno, 2009); 2) maintaining residents' usual routines during end-of-life care; and 3) playing a role in the management of specialist teams to make residents' remaining time fulfilling (Izawa and Mizuno, 2009). Based on qualitative analysis, Nagahata et al. (2012) highlighted the importance of following up with other residents and reviewing end-of-life care in the provision of such care to residents. As noted above, end-of-life care at nursing homes potentially involves various ideas and considerations for residents to have the chance to pass peacefully at the home. However, few studies have examined these ideas and considerations as part of nursing competence. To promote the ability of nursing teams as a

whole to ensure quality in end-of-life care at nursing homes, it is necessary to develop a scale that allows visualization and accurate assessment of the competence of nurses providing such care. The scale must incorporate consideration for the social significance of nursing homes and the dignity of elderly people in the end-of-life stage.

In a previous study by the authors, the factor structure of nursing competence in end-of-life care at nursing homes was clarified and the construct validity of the proposed scale of nursing competence in end-of-life care was examined both in terms of necessity (i.e., the requirement for particular types of care) and usage frequency (i.e., how often particular types of care are administered). The results verified the scale's suitability for practical use with appropriate reliability (Ohmura et al., 2015). To put the scale to practical use, it was necessary to test its reliability and validity as an evaluation index in multiple populations. Against such a background, this study was conducted to assess competence in end-of-life care at nursing homes using the scale in order to evaluate its reliability in practical application.

Considering the diverse educational backgrounds and qualifications of nurses providing end-of-life care at nursing homes, where related care policies are not yet standardized, practical application of the scale was expected to support the growth of nursing teams as a whole at elderly facilities by helping to make the competence of end-of-life care nurses uniform.

#### 1. Aim

The aim of the study was to statistically examine the reliability and validity of the proposed scale in assessing degrees of competence in end-of-life care at nursing homes and to determine the practicality of its application.

#### 2. Definitions

1) End-of-life care: For the purpose of this study, end-of-life care was defined as "comprehensive care provided to a nursing home resident considered by a doctor to have little chance of recovery and to be close to the end of life, and to his/her family."

2) Competence in end-of-life care at nursing homes: Based on the definition of end-of-life care used in this study, the

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construct of competence in end-of-life care at nursing homes was operationally defined as “the ability of nurses to attain the goals of nursing care, including support for the resident’s family; that is, support for residents who have expressed a desire to receive end-of-life care at nursing homes to die a peaceful death without pain.”

## I. Methods

### 1. Subjects

Approximately 70 percent of the 7,552 nursing homes currently operating in Japan provide end-of-life care upon request from residents or their families (Ministry of Health, Labour and Welfare, 2013). Using the addresses of nursing homes listed in the Welfare and Medical Service Network System (WAMNET), a total of 500 facilities were selected (10 to 20 from each prefecture, excluding areas affected by the 2011 Great East Japan Earthquake), and 1,000 nurses (including assistant nurses; two per facility (one in charge of nursing care and one staff nurse)) working at the facilities with experience in end-of-life care were chosen as subjects. Those in charge of nursing care were included in the study as providers of end-of-life care because they commonly play roles similar to those of other nursing staff at nursing homes with a limited staff body.

### 2. Questionnaire

#### a. Subject attributes

The five subject attributes considered were age, qualifications, educational background, clinical experience at medical institutions (in years) and experience of care provision at elderly facilities (in years).

#### b. Scale of competence in end-of-life care at nursing homes

In the development of the scale, a pool of 60 nursing competence items associated with end-of-life care was created based on preceding studies, and the validity of the items was considered by observing participation in and examining records of end-of-life nursing care at nursing homes where such care is provided to residents in accordance with their wishes. Using these 60 items as a basis for questions, the structure of competence in end-of-life care at nursing homes was statistically analyzed. Then, using five factors and 21 items extracted as scale considerations, the proposed scale was developed (Ohmura et al., 2015; referred to here as “the proposed scale”). The 21 considerations were categorized as *Medical management in line with resident wishes* (five items), *Collaboration toward peaceful passing* (four items), *Prediction-based management* (five items), *Personally tailored terminal care* (three items) and *Review following resident passing* (four items). Initial statistical analysis confirmed the reliability and construct validity of these items. The questionnaire’s four-option Likert scale spanned the range from “Not applicable – 1” to “Wholly applicable – 4.”

#### c. Clinical Nursing Competence Self-assessment Scale (CNCSS)

The Clinical Nursing Competence Self-assessment Scale (CNCSS) (64 items) developed by Nakayama et al. (2010) was used to determine the criterion-related validity of the proposed scale. The questionnaire’s four-option Likert scale spans the range from “Not confident – 1” to “Fully confident – 4.” The CNCSS was developed as a tool to measure the competence of nursing school graduates working in the field. The authors consider this a highly stable scale and chose it because its reliability and validity have been continuously verified over

the five years since its development.

#### d. Scale of end-of-life care in general wards

The scale of end-of-life care in general wards (22 items) developed by Yoshioka et al. (2009) was used to determine the convergent validity of the proposed scale. The questionnaire’s five-option Likert scale spans the range from “Not implemented at all – 1” to “Implemented very well – 5.”

The scale of end-of-life care in general wards evaluates the competence of nurses in such care. The definition of end-of-life care for this scale was “Care provided by nurses to patients with terminal cancer and their families to support family care based on consideration of the patient and family as a single care unit.” While circumstances differ, the scale was selected on the basis that competency in end-of-life care involving the patient’s family theoretically has reasonable relevance to competence in end-of-life care at nursing homes.

### 3. Data collection

Self-recording anonymous questionnaires developed by the authors were mailed to the subjects. The envelope contained two further sealed envelopes, each with a letter requesting participation in the study, a questionnaire and a return envelope, and was addressed to the person in charge of nursing care at the relevant nursing home. The letter to the person in charge of nursing care outlined the study’s aims and methods, requested the individual’s participation, and asked for a nursing staff member experienced in end-of-life care to also be selected and given the other sealed envelope. Subjects agreeing to take part in the study were asked to put the completed anonymous questionnaire in the return envelope and mail it without specifying the sender. The period for data collection was from February to April 2013.

### 4. Analysis method

SPSS ver. 19.0 for Windows and Amos ver. 20 were used for statistical analysis.

#### a. Reliability

To evaluate the internal consistency of the proposed scale, Cronbach’s  $\alpha$  was calculated for each factor using the average of the lower items of each scale as a factor point. In addition, to evaluate the reliability of existing scales in the study, Cronbach’s  $\alpha$  was also calculated for each factor of the CNCSS (Nakayama, 2010) and the scale of nursing competence in end-of-life care in general wards (Yoshioka, 2009).

#### b. Construct validity

The response data obtained were applied to the five-factor model for competency in end-of-life care at nursing homes, and their goodness of fit was examined via explanatory factor analysis and covariance structure analysis. As fit indices,  $\chi^2 / df$ , GFI, AGFI, IFI, CFI and RMSEA were used.

#### c. Criterion-related validity and convergent validity

Spearman rank correlation coefficients were calculated via correlation analysis using the CNCSS (Nakayama, 2010) and the scale of competency in end-of-life care in general wards (Yoshioka, 2009).

### 5. Ethical considerations

The study was conducted with approval from the Seirei Christopher University Ethics Committee (approval no. 12041). A letter was sent to the individuals in charge of nursing care at nursing homes requesting participation in the study and selection of a nursing staff member experienced in end-of-life care. In the letter, the individual in charge of

nursing care was informed that the study subjects included the person himself/herself and asked that another nursing staff member be made free of pressure from superiors to enable contribution to the study. The letter specified the anonymity of the questionnaire, the voluntary nature of the study, strict observance of anonymity, and details of the stringent management and eventual destruction of the data collected. Return of the questionnaire was taken as agreement to take part in the study.

## II. Results

A total of 336 people responded (response rate: 33.6%), and the number of valid responses was 298 (valid response rate: 97.3%). Among the respondents, 156 were in charge of nursing care and 142 were nursing staff.

### 1. Subject backgrounds (Table 1)

Subjects in their forties and fifties accounted for 76.2% of all respondents, followed by respondents in their thirties

at 13.1%. In terms of qualifications, 73.5% were nurses and 88.6% had graduated from technical school. A total of 67.5% had had eight years or more of clinical experience at medical institutions, and 21.5% had had four to seven years. A total of 54.4% had had eight years or more of experience at elderly facilities, and 45.6% had had seven years or less. In terms of individual attributes, there were no great differences in the response rate between people in charge of nursing care and nursing staff.

### 2. Reliability (Table 2)

The value of Cronbach's  $\alpha$  calculated for the entire scale of nursing competence in end-of-life care at nursing homes was .848, with the coefficient for individual factors ranging from .781 to .948. The value for the entire CNCSS (Nakayama et al., 2010) was .787, with the coefficient for individual factors ranging from .628 to .879, and that for the entire scale of nursing competence in end-of-life care in general wards (Yoshioka et al., 2009) was .798, with the coefficient for individual factors ranging from .692 to .857.

**Table 1. Basic subject attributes**

(n = 298)

		Total number of subjects (individuals; %)		Nursing care supervisors (Individuals)	Nursing staff (Individuals)
Age	20s	8	2.7	4	4
	30s	39	13.1	17	22
	40s	104	34.9	59	45
	50s	123	41.3	66	57
	60s	22	7.4	9	13
	Other	2	0.7	1	1
Qualification	Nurse	219	73.5	117	102
	Assistant nurse	78	26.2	39	39
	Unknown	1			
Educational background	Technical school	264	88.6	139	125
	Junior college	18	6.0	10	8
	University	2	0.7	1	1
	Other	14	4.7	6	8
Years of clinical experience at medical institutions	1 - 3	33	11.1	18	15
	4 - 7	64	21.5	31	33
	8 - 10	39	13.1	18	21
	10+	162	54.4	89	73
Years of clinical experience at elderly facilities	1 - 3	42	14.1	20	22
	4 - 7	94	31.5	48	46
	8 - 10	53	17.8	29	24
	10+	109	36.6	59	50
Total		298		156	142

**Table 2. Descriptive statistics and confidence coefficient for competence based on the CNCSS**

(n = 298)

	Factor	$\alpha$
CNCSS	Basic responsibilities	.788
	Ethical practices	.754
	Supportive relationships	.820
	Clinical judgment	.858
	Systematic development of nursing care	.879
	Assessment of care	.831
	Health promotion	.852
	Risk management	.708
	Care coordination	.628
	Nursing management	.811
	Improvement of specialization	.777
	Improvement of quality	.725
	Continued learning	.804
	Scale of end-of-life care in general wards	Care facilitating passage without regrets
Spiritual care		.828
Assurance of palliative care		.857
Support for decisions based on appropriate information		.802
Arrangement of available care		.692

3. Scale validity

a. Construct validity (Fig. 1)

The data obtained were applied to the five-factor structure of nursing competence in end-of-life care at nursing homes to examine their goodness of fit. The analysis of covariance structure for the five-factor model was converged with the goodness of fit  $\chi^2/df = 3.012$ , GFI = .848, AGFI = .803, IFI = .917, CFI = .917, RMSEA = .081 ( $p = .000$ ). The path coefficient between individual factors ranged from .57 to .89, and that for lower items ranged from .54 to .96.

b. Criterion-related validity (Table 3)

Correlation analysis for the proposed scale and the CNCSS (Nakayama et al., 2010) revealed intermediate (.40 < r < .65) correlations among all factors ( $p < .001$ ). Factors with which "Medical management in line with resident wishes" had a relatively high correlation coefficient of .60 or higher were "Supportive relationships," "Systematic development of nursing care," "Health promotion" and "Improvement of quality." "Prediction-based management" was also found to be correlated with "Clinical judgment."

c. Convergent validity (Table 4)

Correlation analysis for the scale of competence in end-of-life care at nursing homes and the scale of end-of-life care in general wards showed an intermediate (.47 < r < .65) correlation among all factors ( $p < 0.001$ ). The factors with which "Medical management in line with resident wishes" had a relatively high correlation coefficient of .60 or higher were "Care facilitating passage without regrets," "Spiritual care" and "Support for decisions based on appropriate information." Likewise, "Prediction-based management" was found to be correlated with "Assurance of palliative care," and "Personally tailored terminal care" was found to be correlated with "Care

for comfort and the spirit," "Support for decisions based on appropriate information" and "Arrangement of available care" ( $p < .001$ ).

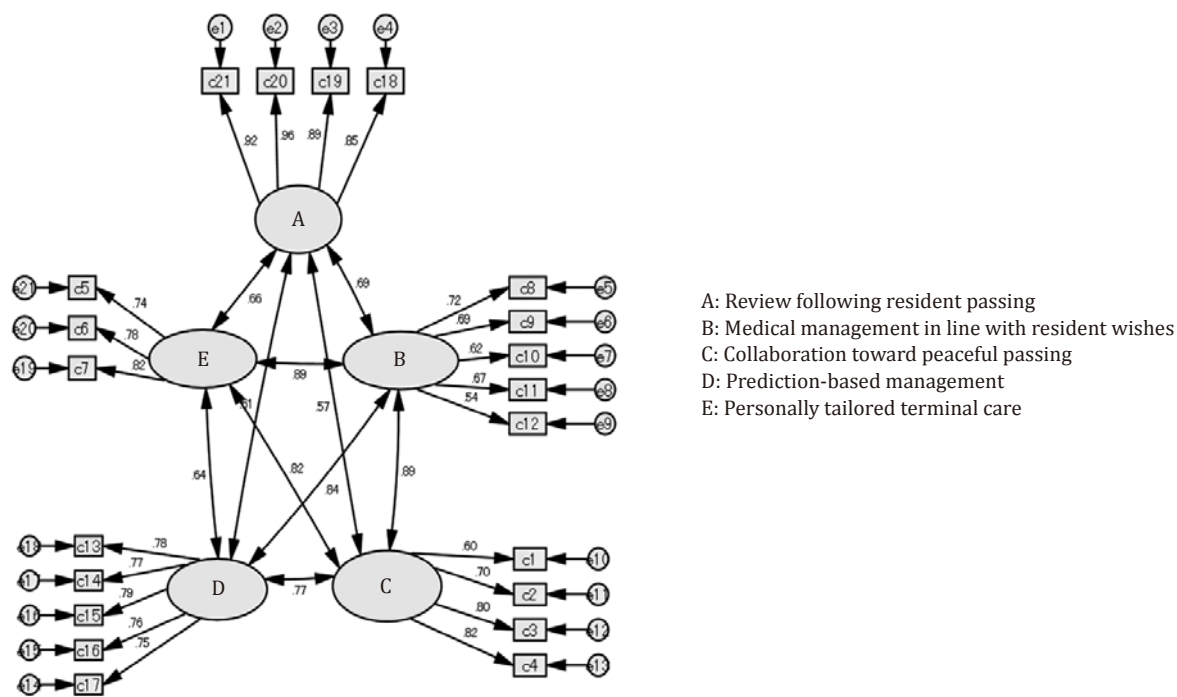
III. Discussion

1. Reliability and validity of the proposed scale

The value of Cronbach's  $\alpha$  calculated for the entire scale of competence in end-of-life care at nursing homes was .848, with values of .7 or higher indicating high reliability (Oda, 2010, pp. 210 – 212), thereby indicating the internal consistency of the scale. The value was higher for all factors than that calculated for necessity and practice frequency in a preceding study (Ohmura et al., 2015), thereby indicating the reliability of the scale for evaluating competency in end-of-life care. The value for the entire CNCSS (Nakayama et al., 2010) was .787, and that for the entire scale of end-of-life care in general wards (Yoshioka et al., 2009) was .798, thereby indicating reliability in this study of the two existing scales selected for examination of the proposed scale's validity.

In explanatory factor analysis for the proposed scale, goodness of fit statistics converged within acceptable ranges and correlation was observed among factors in the five-factor model, thereby indicating the construct validity of the scale. Goodness of fit values and path coefficients among variables were also similar to those for the necessity model and the practice frequency model examined in a preceding study (Ohmura et al., 2015). These results suggested the suitability of the proposed scale for evaluation of competence in enabling elderly residents of nursing homes to die a painless and peaceful death.

Analysis revealed a significant positive correlation between



CMIN/DF	GFI	AGFI	CFI	IFI	RMSEA
3.012	.848	.803	.917	.917	.081

Fig. 1. Results of covariance structure analysis for the five factors of nursing competence in end-of-life care at nursing homes

**Table 3. Descriptive statistics for competence in end-of-life care at nursing homes**

(n = 298)

		Average	Standard deviation	$\alpha$
Review following resident passing	1. Recall and assessment of whether resident passing was painless and natural	3.11	0.66	.948
	2. Recall and assessment regarding the effects of care administered and the status of the resident's body	3.01	0.71	
	3. Recall of exchanges with family and their reactions, and assessment on the appropriateness of support provided	2.98	0.69	
	4. Recall and assessment on whether end-of-life care in line with resident wishes was provided	2.97	0.68	
Medical management in line with resident wishes	5. Provision of care prioritizing resident wishes as much as possible	3.14	0.59	.781
	6. Development of relationships supporting free expression among residents prior to the terminal stage	2.96	0.66	
	7. Provision of opportunities for residents and family to express wishes regarding end-of-life care	2.94	0.63	
	8. Administration of pain control in collaboration with a doctor	3.03	0.68	
	9. Review of unnecessary treatment and testing once the terminal stage has been reached	3.05	0.68	
Collaboration toward peaceful passing	10. Observation and assessment of symptoms and pain characteristics to the end-of-life stage	2.97	0.51	.810
	11. Prediction of entry to the terminal stage	3.16	0.47	
	12. Close collaboration with care workers specializing in life support	3.15	0.55	
	13. Standardization of end-of-life care policies in consideration of the opinions of other professionals	3.20	0.56	
Prediction-based management	14. Prediction of sudden nighttime changes based on daytime wellbeing among residents	3.21	0.56	.878
	15. Prediction of potential symptoms and advance medical consultation	3.14	0.63	
	16. Provision of information to care workers on the next night shift regarding the possibility of sudden changes in resident conditions	3.36	0.54	
	17. Provision of information to residents and family on medical services available at the facility	3.39	0.61	
	18. Checking of resident/family wishes regarding life-prolonging procedures	3.36	0.62	
Personally tailored terminal care	19. Consideration of requests relating to residents' religious customs and beliefs	2.91	0.72	.823
	20. Reflection of resident interests, preferences, life history, etc., in end-of-life care plans	2.97	0.69	
	21. Inference and application of resident wishes based on individual characteristics in cases where direct communication is impractical	3.00	0.64	

**Table 4. Correlation between the competence factors in end-of-life care at nursing homes and existing scales**

(n = 298)

		Review following resident passing	Medical management in line with resident wishes	Collaboration toward peaceful passing	Prediction-based management	Personally tailored terminal care
CNCSS	Basic responsibilities	.416***	.454***	.454***	.513***	.424***
	Ethical practices	.493***	.588***	.536***	.571***	.513***
	Supportive relationships	.503***	.628***	.508***	.450***	.542***
	Clinical judgment	.515***	.587***	.579***	.616***	.494***
	Systematic development of nursing care	.520***	.642***	.580***	.575***	.594***
	Assessment of care	.494***	.595***	.471***	.467***	.505***
	Health promotion	.427***	.613***	.457***	.400***	.474***
	Risk management	.491***	.544***	.541***	.518***	.531***
	Care coordination	.435***	.569***	.480***	.435***	.515***
	Nursing management	.476***	.546***	.589***	.553***	.491***
	Improvement of specialization	.494***	.575***	.504***	.429***	.534***
	Improvement of quality	.480***	.605***	.539***	.517***	.519***
	Continued learning	.404***	.517***	.442***	.406***	.466***
	Scale of end-of-life care in general wards	Care facilitating passage without regrets	.487***	.631***	.542***	.524***
Spiritual care		.532***	.603***	.539***	.470***	.622***
Assurance of palliative care		.519***	.596***	.579***	.606***	.516***
Support for decisions based on appropriate information		.540***	.629***	.533***	.576***	.603***
Arrangement of available care		.472***	.548***	.523***	.525***	.612***

[Note] \*\*\*:  $p < .001$ 

the proposed scale and the CNCSS at the 0.1% level, thereby indicating the criterion-related validity of the scale. This highlighted the scale's appropriateness as a measurement tool conforming to external criteria for self-assessment of basic nursing competence. Analysis with the scale of end-of-life care in general wards (Yoshioka et al., 2009) also showed a significant positive correlation at the 0.1% level, thereby confirming the convergent validity of the scale.

The correlation with the scale of end-of-life care in general wards, which was selected as a theoretically highly correlated concept, supported the conceptual definition of end-of-life care used in the scale and indicated its appropriateness in the assessment of overall care for terminally ill patients and their families.

## 2. Characteristics of competence in end-of-life care at nursing homes

The correlation observed between the CNCSS (Nakayama et al., 2010) and the proposed scale indicated that nursing competence in end-of-life care at nursing homes could be improved via the establishment of supportive relationships with residents, systematic nursing care, emphasis on the autonomy and wishes of residents, and awareness of the capacity for quality improvement. In particular, interpretation of the strong correlation between “Medical management in line with resident wishes” in the proposed scale and the “Health promotion” part of the CNCSS (Nakayama et al., 2010) suggests that the concept of health promotion in nursing care implicitly exists in competence for end-of-life care at nursing homes. That is, such competence implicitly involves nursing recognition with focus on respect for the wishes of residents, allowing them to live out their remaining time, however short it may be, autonomously. These results support the findings of a preceding study by Iwamoto et al. (2007) supporting the promotion of terminal care nursing advocacy at nursing homes based on the importance of clarifying residents’ wishes and making efforts to support their decisions.

Meanwhile, the correlation with existing scales was weaker for “Collaboration toward peaceful passing” and “Review following resident passing.” Such collaboration involves the capacity for coordination with care workers, who in most cases do not work in general wards of medical institutions. Care workers, or specialists in life support, tend to exhibit strong anxiety and fear regarding death, and their smooth collaboration with nurses in end-of-life care is enabled by the latter’s provision of psychological support to such workers (Ohmura, 2013). Nurses are able to provide such support due to the staff organization associated with elderly facilities, which is part of competence in end-of-life care at nursing homes.

“Review following resident passing” involves post-mortem review of the care provided, and is a characteristic of end-of-life care at nursing homes. Such review is a primary factor with loading higher than that of other factors as extracted via exploratory factor analysis in preceding studies, and is the only factor with a Cronbach’s  $\alpha$  value of .9 or higher based on judgment of necessity and application frequency in preceding studies from competence assessment in this study. This result indicates that the subjects of this study, who provide end-of-life care to numerous people, consider this factor as very important. Behind the history of such nurses’ provision of highly personalized end-of-life care in the absence of guidelines at nursing homes, where the medical care system is not as comprehensive as that at hospitals, is a professional ability enabling them to implement critical self-assessment in which all end-of-life care is reviewed earnestly (e.g., Was the resident’s passing painless and natural? Were the resident’s wishes respected and was support provided to the family appropriate? Was the body of the deceased clean? (i.e., Was the care provided sufficiently effective?)) and use the results in subsequent end-of-life care along with incorporation into their views on life/death and nursing. In relation to the necessity of review following each case of end-of-life care, Shimada (2012) discussed the importance of considering not how residents died but whether they lived in a manner that suited them. Accordingly, it can be said that “Review following resident passing” involves the ability to assess quality of life for elderly people approaching their final days at nursing

homes, and that this perspective on end-of-life care at nursing homes differs from that provided at hospitals. That is, this type of review represents the core of nursing competence in end-of-life care as well as being an ethical principle that should be followed by care workers and anybody else involved in the provision of such care.

## 3. Practicality of the scale

The study indicated that the scale of competency in end-of-life care at nursing homes could be used to evaluate the degree of overall nursing competence required to enable elderly people at nursing homes to die a painless and peaceful death. Nurses in their forties and fifties with eight or more years of clinical experience at medical institutions or elderly facilities (i.e., proficient experts based on Benner’s nursing theory) accounted for over half of all subjects.

Taking this into consideration, it can be said that competence in end-of-life care at nursing homes is a unique skill developed via trial and error using existing nursing competence to realize the peaceful death of residents.

Accordingly, all nurses providing end-of-life care, regardless of their basic attributes, can be assessed using the scale. The five-factor structure allows its use to calculate scores for individual factors, thereby helping to identify specific abilities in nursing care that require improvement or supplementation and supporting efficient improvement of nursing competence.

Chiba et al. (2009) highlighted that nurses providing terminal care at group homes are expected to help improve the medical system and the quality of staff at their facilities as well as to create a pleasant environment for residents, and these elements are similar to the factors of the proposed scale identified in this study. That is, the scale can be considered applicable to end-of-life care at elderly facilities such as group homes, in addition to nursing homes, as long as conditions such as elderly residents living out their final days, various professionals collaborating and nurses being able to exercise leadership in medical care are met.

## IV. Conclusions

1. The scale of competency in end-of-life care at nursing homes can be used to evaluate the overall nursing competence required to allow elderly people to die a painless and peaceful death at residential facilities.
2. The scale consists of 5 factors and 21 items: *Medical management in line with resident wishes* (five items), *Collaboration toward a peaceful death* (four items), *Prediction-based management* (five items), *Personally tailored terminal care* (three items) and *Review following resident passing* (four items).
3. The scale is characterized by reliability, construct validity, criterion-related validity and convergent validity.

## V. Study limitations and future issues

A limitation of the study was its use of nurses experienced in end-of-life care as subjects with no comparison of possible response trends relating to clinical experience and qualifications. Institutional policies relating to the administration of end-of-life care at nursing homes are currently diverse, and competence in such care is considered to be influenced by factors including facility principles and scales, the duration of end-of-life care and the presence of partner hospitals. It is therefore necessary to investigate

influencing factors and to compare the effects of nursing experience and ability.

Nevertheless, the study involved a larger population than the authors' preceding study, and certain levels of reliability and validity for the scale were identified. In future work, the authors plan to expand the scope of the scale beyond nursing homes based on testing of its applicability at elderly facilities nationwide, including group homes and fee-charging homes for elderly people.

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