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*AM J HOSP PALLIAT CARE* published online 16 June 2013  
DOI: 10.1177/1049909113491133

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# Efficacy of the End-of-Life Nursing Care Continuing Education Program for Nurses in General Wards in Japan

American Journal of Hospice & Palliative Medicine®  
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DOI: 10.1177/1049909113491133  
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## Abstract

This study aimed to examine effectiveness of the End-of-life nursing care continuing education program for general ward nurses. A nonrandomized, before-after trial was conducted. The program was implemented for 25 nurses. The contents of the program consisted of the family assessment, general symptom management and practical use of theories and models regarding end-of-life nursing care. The primary outcome, implementation ability of end-of-life nursing care, was significantly improved after the program; improvements continued even at 2 months after. Similar results were obtained for nurses' confidence and knowledge concerning end-of-life nursing care. As for attitude toward end-of-life care, participants' scores were further elevated after the program. The participants rated the usefulness of the program as high. The effectiveness of the program was suggested from these results. In the future, this program should be widely used for in-service training.

## Keywords

end-of-life care, end-stage cancer, nursing, general ward, continuing education, evaluation

## Introduction

More than 3 00 000 people in Japan die of cancer annually, and about 90% of such deaths occur in general wards.<sup>1</sup> This means that most patients with cancer and their families spend their end-of-life days in acute care hospitals. These situations occur against a background of inadequate hospices/palliative care facilities and home care-support systems. As a result of these situations, general ward nurses are required to provide high-quality end-of-life care to enhance the quality of life of patients and their families.

Although the importance of quality end-of-life nursing care implemented by general ward nurses has been emphasized, previous studies have revealed that psychosocial care and support for families at patients' end of life have been insufficient.<sup>2-6</sup> Indicated reasons for insufficient care included nurses' anxiety over death and negative views of life and death.<sup>7</sup> Furthermore, the lack of continuing education regarding end-of-life care has been emphasized.<sup>8,9</sup> As mentioned in the studies discussed earlier, many barriers remain to the achievement of good-quality end-of-life nursing care in general wards. Therefore, it is important to develop a continuous educational program on end-of-life nursing care for general ward nurses.

An example of continuous education programs is the End-of-Life Nursing Education Consortium (ELNEC).<sup>10</sup> This program is intended to foster leadership in end-of-life nursing care and efforts to prepare a Japanese version of ELNEC have been undertaken with the same objective as that of the original ELNEC—to

train leaders.<sup>11</sup> A similar program in Japan is the Educational Curriculum for Hospice Nurses Engaged in Palliative Care, which takes 3 years to complete.<sup>12</sup> The Japanese Nursing Association's Palliative Care Training Course for Nurses consists of about 6 weeks of full-time lectures, and clinical practice.<sup>13</sup>

In general, the contents of these existing programs are structured according to a general curriculum but might not necessarily focus on urgently needed improvements in the quality of care implemented by general ward nurses. Moreover, some of these programs require that participants have a certain level of skills or commitment to learning for a long period; this creates difficulties in concurrently managing their regular jobs. Therefore, in accordance with the results of our preceding study,<sup>14</sup> we developed an end-of-life nursing care continuing education program through integration of essential educational elements for nurses in general wards.

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Session	Content of lecture	Time	Content of discussion	Time
1	<ul style="list-style-type: none"> <li>• Introduction of the program</li> <li>• Presentation of the overview of program (objective and method)</li> <li>• Explanation of concept of end-of-life nursing care</li> <li>• Basic knowledge about care for family</li> <li>• How to understand family situations (based on family system nursing theory), family needs, significance of caring for family</li> <li>• Basic knowledge about theories/models related to end-of-life nursing care</li> </ul>	90 min	<ul style="list-style-type: none"> <li>• Problems and issues in implementation of daily end-of-life care</li> <li>• Current situation and issues regarding family care</li> </ul>	30 min
2	<ul style="list-style-type: none"> <li>• Basic knowledge about family assessment</li> <li>• How to understand family situations (review), understanding of circular relationships, understanding of issues related to family lifecycle and evolution</li> <li>• Actual cases of family assessment (explanation by using simulated patients)</li> <li>• Introduction of family assessment sheet, how to utilize the sheet</li> </ul>	60 min	<ul style="list-style-type: none"> <li>• Family assessment in the simulated case example</li> <li>• Possibility of utilization of the family assessment sheet in own ward</li> </ul> <p>[Homework]</p> <ul style="list-style-type: none"> <li>• Assessment of the actual family of the end-of-life patient</li> <li>• Preparation of the presentation</li> </ul>	60 min
3	[Presentation of case studies based on family assessments] • Presentation from each ward concerning introduction of the case, process of family assessment, family needs, and necessary care • Discussion regarding the presentation contents			150 min
4	<ul style="list-style-type: none"> <li>• Symptom management</li> <li>• Basic knowledge about pain management</li> </ul>	120–150 min	<ul style="list-style-type: none"> <li>• Current situation and problems in pain management in the ward</li> <li>• Q&amp;A on how pain should be handled, and consultation</li> </ul>	30–60 min
5	<ul style="list-style-type: none"> <li>• General symptom management</li> <li>• Basic knowledge on management of major symptoms</li> <li>• Alternative treatments and actual care that can be provided by nurses</li> </ul>	120–150 min	<ul style="list-style-type: none"> <li>• Current situation and problems in symptom management in the ward</li> <li>• Q&amp;A on how symptoms should be handled, and consultation</li> </ul>	30–60 min
	[Wrap-up for the program] • Review of the content of the program • Lessons learned, impressions about the entire program, and future prospects for implementation			30 min

Before

↓

After

↓

2 months later

**Figure 1.** Overview of the program.

Accordingly, the objective of this study was to compare the evaluation indicators before and after the intervention to assess the educational effectiveness of the program.

## End-of-Life Nursing Care Continuing Education Program for General Ward Nurses

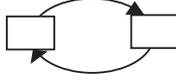
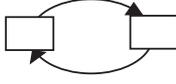
### Background of the Program

Prior to this study, factors related to end-of-life nursing care in general wards in Japan were determined.<sup>14</sup> According to the results of previous studies, a nurse's subjective evaluation of his or her own team, existence of a role model, positive attitudes toward caring for dying persons, and view of life and death are factors related to attitudes toward end-of-life nursing care. Subjective evaluation of the nurse's own team had the greatest influence on attitude. Moreover, family assessment, general symptom management, abstract judgment, and participation in seminars on end-of-life care were determined as factors related to knowledge and skills. Abstract judgment means the development of a nursing process that utilizes

theories and models. In accordance with these results, family assessment, general symptom management, and practical use of theories and models regarding end-of-life nursing care were adopted as the educational contents of the program. Further, since evaluation of the nurse's own team had the greatest influence on attitude, groups were organized with the member of the same ward in the learning activity.

### Overview of the Program

Figure 1 provides an overview of the program. The first half of the program was dedicated to basic knowledge about family nursing and family assessment.<sup>15</sup> The family assessment sheet was prepared for use in general wards; it focused on essential elements such as family construction, circular communication, and developmental family assessment (Figure 2).<sup>15</sup> In the third session, participants were asked to present the results of their case studies (which they conducted using the assessment sheet). The second half of the program was dedicated to lectures regarding the management of patients' symptoms by a certified nurse specialist

Assessment sheet to support the patient's family	
Step 1. Worrisome problems at present	
Step 2. What is happening? Find clues among the signs.	
<ul style="list-style-type: none"> <li>Draw up the genogram.</li> </ul>	<ul style="list-style-type: none"> <li>Circular communication pattern between family members (Draw a circular pattern diagram.)</li> </ul> 
<ul style="list-style-type: none"> <li>Developmental life cycle of the family and the events that occurred in the past</li> </ul>	<ul style="list-style-type: none"> <li>Opinions, thoughts, desires, and beliefs of each family member</li> </ul>
<ul style="list-style-type: none"> <li>Health status of the family</li> </ul>	<ul style="list-style-type: none"> <li>Circular communication pattern between family members and health professionals (Draw a circular pattern diagram.)</li> </ul> 
Step 3. Goal (including how to spend the last days)	

**Figure 2.** Family assessment sheet used in this project.

in cancer nursing. The introduction of a symptom management model,<sup>16</sup> assessment techniques for pain, and basic knowledge about narcotics were included in the contents of the lecture. The physical conditions often found in end-stage patients with cancer, such as fatigue, dyspnea, and delirium, as well as intervention techniques that can be used by nurses, were also included in the lecture. In the discussion sessions, participants discussed the current status and problems of their implementation of end-of-life care and had the opportunity to ask questions to or consult with the lecturer.

The duration of the program was set at about 2 months, considering workload management and the psychological burdens on relevant staff members and their wards. The lecturers prepared all of the presentation materials and additional documents. In the first session, each participant received a workbook for management that could be used even after the program.

## Methods

### Study Period

The participants were enrolled in the program in June to July 2010. The third evaluation of the program was conducted in September 2010.

## Participants

The participants were nurses working in hospital A—the regional cancer treatment center in western part of Japan—who were assigned to the general wards, where end-of-life cancer nursing care was provided. The participants were required to be generalists with no qualifications as specialized or certified nurses.

Power analysis revealed that the appropriate sample size would be 17 to 21. Considering the possibility of dropout, 25 nurses were chosen. Anticipating that group work with 5 members would be efficiently facilitated, we selected 5 nurses from each of the 5 wards at hospital A. To ensure homogeneity of members among the groups, the basic group structure consisted of 1 veteran nurse, 2 mid-career nurses, and 2 novice nurses.

## Study Design

A nonrandomized, before–after trial was conducted.

## Evaluation Indicators and Points

The evaluation was completed before, immediately after, and 2 months after intervention. The details of the evaluation indicators were as follows.

**End-of-Life Nursing Care.** End-of-life nursing care ability is the primary end point measure of this study. The *Mitori* care scale was used to evaluate nurses' end-of-life care ability. *Mitori* is a Japanese word specifically related to care provided to a dying person by family caregivers at any given location.<sup>17</sup> “*Mitori* care” is defined as nurses' care activities to support dying patients and family caregivers from the viewpoint of the family as a care unit.<sup>18</sup> This 22-item scale was developed as a self-evaluation measurement scale of *Mitori* care for nurses; it is composed of 5 subscales: care facilitating death without regret, spiritual care, assurance of palliative care, supporting decision making with appropriate information, and arrangement of available care.<sup>18</sup> The reliability of the *Mitori* care scale has been showed by a Cronbach  $\alpha$  coefficient of .91 (subscales = .67–.83) and a test–retest reliability coefficient of .74. The criterion related and construct validity of this scale were verified using factor analysis and the known group technique.

**Self-Efficacy Toward End-of-Life Nursing Care.** Negative view and lack of self-confidence about the end-of-life nursing care are relevant to its implementation.<sup>7,19</sup> Therefore, it was necessary to include self-efficacy items in the evaluation indicators. Eight original items were created for this study to determine participants' “self-confidence in conducting end-of-life nursing care” that reflected the educational content of the program. After principal component analysis confirmed the 1-dimensional nature of these items, the scores were added and assigned to relevant scales.

**Attitude Toward End-of-Life Care.** In this study, attitudes were measured by the Frommelt Attitudes Toward Care of the Dying Scale Form B Japanese version (FATCOD-B-J), which is

composed of 2 subscales (30 items): positive attitudes toward caring for dying persons and recognition of caring for the pivot dying persons and their families.<sup>20</sup> The reliability of FATCOD-B-J has been indicated by a Cronbach  $\alpha$  coefficient of .85 (subscales: .73, .65) and a test-retest reliability coefficient of .85. The construct validity of the scale has been verified by factor analysis. As these scales were designed specifically to investigate participants' willingness and values regarding care, the scales were considered to be suitable for the measurement of the educational effects of the program; thus, they were added as evaluation indicators.

**Subjective Evaluation Regarding the Nurses' Own Team.** As the nursing team was the base unit for the learning program, the team evaluation items were included in the evaluation indicators. Subjective evaluation items regarding the nurses' own team (10 items) were formulated to reflect the formation of nurses' own values related to end-of-life nursing care within a team through high-quality information sharing and interaction among team members. These items evaluated the interrelationships among team members and teams' styles of dealing with issues, including the procedures/contents of team conferences, relationships with physicians, and decision making. After principal component analysis confirmed the 1-dimensional nature of these items, the scores were added and assigned to relevant scales.

#### Nurses' Knowledge Regarding End-of-Life Care

**Subjective Evaluation Items Regarding the Level of Knowledge About End-of-Life Care.** These items were formulated to determine nurses' level of knowledge about end-of-life care. This 19-item scale is composed of 5 subscales: general symptom management, pain management, family assessment, social resources, and nursing theories or models regarding end-stage patients with cancer and their families. After factor analysis confirmed the structure of 5 factors, they were used as subscales.

**Symptom Management Quiz.** Ross et al's<sup>21</sup> palliative care quiz for nursing was referenced during the discussion among researchers while the 20-item quiz was formulated. Participants were asked to choose correct/incorrect for each question.

In addition to the above evaluation indicators, the researchers invited the participants' comments concerning each program session. After the last session, the participants' satisfaction regarding the program content, implementation method, and duration were evaluated on a 5-point scale.

## Data Collection

At each evaluation point, a questionnaire was distributed to the participants who completed it anonymously. An ID number was randomly assigned to each participant, which was entered in the slot given in the questionnaire sheet, so that both privacy protection and data matching would be assured.

## Data Analysis

After the normality of the distributions of the evaluation indicators was verified with the Shapiro-Wilk test, repeated-measures analysis of variance was conducted. The SPSS (v. 17.0J; SPSS, Tokyo, Japan) was used for analysis, and the significance level was set at <5%.

## Ethical Considerations

This study was approved by the administrator of A hospital. The contents and methods of the program, study objectives, protection of privacy, and publication of results were explained to the participants in detail. The voluntary nature of participation in this study was emphasized, and all participants' consent was obtained in writing.

## Results

While a total of 25 nurses participated in the program, 1 dropped out due to a health problem, and 2 who failed to give correct responses to several questions were also excluded; thus, the data of 22 participants were analyzed.

### Characteristics of Participants

The participants' mean age was  $30.8 \pm 9.1$  years. The majority had graduated from diploma school (Table 1). About 70% had previously taken in-service seminars on palliative care, and at least 40% had been engaging in continuing self-study in some form or other. Meanwhile, about 30% said that they had never learned about the provision of nursing care for families.

### Analysis of the Effectiveness of the Program

Table 2 shows the results of the evaluation indicators at each time point.

As indicated by total *Mitori* care scores and all subscale factor scores, implementation ability for end-of-life nursing care (which was the primary outcome measure of the study) significantly improved immediately after the program and at 2 months after the program compared with preintervention ( $P < .01$ ,  $P < .05$ ). Further, outcome scores immediately after the program were approximately equal to those at 2 months after the program.

Scores of self-efficacy items toward end-of-life nursing care showed the same result with *Mitori* care scores ( $P < .01$ ).

As for attitudes toward end-of-life nursing care, total scores on the FATCOD-B-J and scores for positive attitudes toward caring for dying persons were significantly elevated immediately after the program but significantly lowered at 2 months after the program compared with immediately after levels ( $P < .01$  and  $P < .05$ ). Recognition of caring for the pivot dying persons and their families significantly increased immediately after the program ( $P < .05$ ), but no significant changes were observed 2 months after the program.

Scores for subjective evaluation regarding the nurses' own team increased slightly from the preintervention period to

**Table 1.** Characteristics of Participants (N = 22).

	n	%	M ± SD
Age, years			30.8 ± 9.1
Gender			
Male	2	9.1	
Female	20	90.9	
Clinical experience, years			
<5	7	31.8	
5–15	11	50.0	
>15	4	18.2	
Position			
Vice head nurse	2	9.1	
Team leader	3	13.6	
Staff	17	77.3	
Educational background			
Bachelor's degree	5	22.7	
Associate's degree	1	4.5	
Diploma	16	72.7	

Abbreviation: SD, standard deviation.

2 months after intervention, although the differences were not significant. However, the following comments were given by a vice head nurse and a veteran nurse, respectively, at 2 months after the program: “the nurses have become more proactive in making contact with the patient’s family” and “the nurses have become more proactive in talking to the family to get information.” These comments from participants in supervisory positions reflected the changes attained by the entire team.

Scores for knowledge about end-of-life nursing care were significantly elevated both immediately after and 2 months after the program compared with preintervention levels ( $P < .01$  and  $.05$ ), and the scores immediately after the program were approximately equal to those at 2 months after the program.

### Overall Evaluation of the Program

Overall, satisfaction with the program and the appropriateness of its content were highly rated. Time allocation and quantity of content were assessed as “not so good” by 4 (18.2%) participants for the following reasons: “more time should have been allocated to family nursing,” “we wanted to spend more time on symptom management,” “the program was too long,” and “the session’s timing after daytime work was too hard”; these complaints presented both positive aspects that reflected their willingness to study and negative aspects derived from physical and psychological burdens. The usefulness of the program was rated as “useful” and “fairly useful” by a combined 100% of participants (Table 3).

## Discussion

### Efficacy of the End-of-Life Nursing Care Continuing Education Program

As a result of program implementation, end-of-life nursing care implementation ability—the primary outcome—was

significantly elevated after the end of the program and persisted until 2 months after the program. Such a significant outcome indicated that this program was effective for the improvement of end-of-life nursing care implementation ability in general ward nurses. The results on general ward nurses’ self-efficacy regarding end-of-life nursing care showed the same pattern as those on end-of-life nursing care implementation ability. Self-efficacy has been proven to be a source of inspiration to pursue actions without worry regarding failure or difficulties<sup>22</sup>; therefore, the results of this study—which indicated improvement in end-of-life nursing care implementation ability coupled with the betterment and retention of self-efficacy—are promising in terms of future retention and improvement in participants’ abilities.

Attitudes toward end-of-life nursing care were significantly improved immediately after the program, while total scores and positive attitude toward caring for dying persons decreased to preintervention levels by 2 months after the end of the program. The FATCOD-B-J scores observed in this study were higher than those seen in our preceding study.<sup>14</sup> Since the participants of this program were collected from among nurses who wanted to join and voluntarily applied for the program, their interest in end-of-life nursing care is likely to be high. Furthermore, the attitudes measured by FATCOD-B-J reflected that they had positive attitudes and a strong sense of values concerning end-of-life nursing care; these elements were likely to increase temporarily after program participation. However, significant decreases in those elements 2 months after the program might indicate that the participants’ judgment became more objective with the passing time. Further, as the score of FATCOD-B-J immediately after the program was  $>4$  on a 5-point scale, the more increase in score may have been inappropriate from the perspective of data reliability.

No significant changes were observed in the subjective evaluation regarding the nurses’ own team. In this study, the participants’ evaluations regarding their own team were lower than that indicated by the preceding results.<sup>14</sup> This result reflects participants’ tendency to evaluate their own teams more strictly because of their high level of awareness toward end-of-life care. Although the expected results regarding nurses’ recognition of their own teams were not fully obtained, a positive change did occur in their qualitative evaluations of their own teams. As mentioned earlier, the evaluation method regarding the team should have been considered more.

Knowledge about end-of-life nursing care significantly increased immediately after the end of the program, and this level was maintained for 2 months after the program. Steginga et al<sup>23</sup> discussed the importance of small group discussions and creative program structure in addition to lectures for the enhancement of educational effectiveness. In our program, discussion and case study sessions after the lectures were considered effective for the acquisition and absorption of knowledge. A number of researchers have mentioned that the educational system for end-of-life nursing care should be improved and that the continuity of the program is important; for these reasons, our program should be widely implemented.

**Table 2.** Results of the Evaluation Indicators at Each Time Point (N = 22).<sup>a</sup>

Indicator	(a) Before		(b) After		(c) 2 months after		P value		
	Mean	SD	Mean	SD	Mean	SD	(a)–(b)	(b)–(c)	(a)–(c)
<i>Mitori</i> care scale	62.36	12.00	72.95	10.60	74.91	15.51	<.001 <sup>b</sup>	.576	<.001 <sup>b</sup>
Care facilitation death without regret	18.91	3.70	21.59	3.20	21.55	4.80	<.001 <sup>b</sup>	.996	<.001 <sup>b</sup>
Spiritual care	9.77	2.96	12.64	3.71	13.95	4.51	<.001 <sup>b</sup>	.106	<.001 <sup>b</sup>
Assurance of palliative care	12.91	2.16	14.14	1.91	14.59	2.54	.040 <sup>c</sup>	.620	.003 <sup>d</sup>
Supporting decision making with appropriate information	11.14	2.83	13.73	2.29	13.82	3.30	<.001 <sup>b</sup>	.986	<.001 <sup>b</sup>
Arrangement of available care	9.64	2.38	10.86	1.73	11.00	2.07	.020 <sup>c</sup>	.948	.009 <sup>d</sup>
Self-efficacy toward end-of-life nursing care	23.41	5.79	29.41	5.53	27.82	7.29	<.001 <sup>b</sup>	.239	<.001 <sup>b</sup>
FATCOD-B-J	118.73	10.10	126.09	11.69	121.45	13.89	.001 <sup>d</sup>	.042 <sup>c</sup>	.314
Positive attitudes toward caring for dying persons	62.95	7.93	67.50	8.34	63.77	8.78	.003 <sup>d</sup>	.015 <sup>c</sup>	.797
Recognition of caring for the pivot dying persons and their families	51.86	4.19	54.86	4.02	53.91	6.00	.016 <sup>c</sup>	.630	.132
Subjective evaluation regarding the nurses' own team	29.59	6.56	29.95	6.95	30.36	7.35	.946	.932	.778
Nurses' knowledge regarding end-of-life care									
Subjective evaluation regarding the level of knowledge about end-of-life care	53.41	11.16	73.32	7.53	71.55	11.46	<.001 <sup>b</sup>	.597	<.001 <sup>b</sup>
Family assessment	9.05	3.15	16.41	1.89	16.09	2.64	<.001 <sup>b</sup>	.872	<.001 <sup>b</sup>
General symptom management	15.41	2.78	19.50	2.30	19.14	2.75	<.001 <sup>b</sup>	.802	<.001 <sup>b</sup>
Nursing theories or models	11.23	3.39	15.14	2.05	14.32	3.26	<.001 <sup>b</sup>	.423	<.001 <sup>b</sup>
Pain management	13.55	3.05	16.14	2.01	15.73	2.78	<.001 <sup>b</sup>	.686	<.001 <sup>b</sup>
Social resources	4.18	1.94	6.14	2.01	6.27	1.91	<.001 <sup>b</sup>	.895	<.001 <sup>b</sup>
Symptom management quiz	12.33	2.56	13.86	2.23	13.73	2.21	.018 <sup>c</sup>	.964	.034 <sup>c</sup>

Abbreviations: FATCOD-B-J, Frommelt Attitudes Toward Care of the Dying scale Form B Japanese version; SD, standard deviation.

<sup>a</sup>Repeated-measures analysis of variance, Tukey honestly significant difference post-hoc tests. *Mitori* care scale (Yoshioka et al<sup>4</sup>) measured end-of-life nursing care ability. All scales are 5-point Likert-type scale except self-efficacy toward end-of-life nursing care. Self-efficacy toward end-of-life nursing care is 6 on the Likert-type scale. 1 = strongly disagree; 2 = disagree; 3 = relatively disagree; 4 = relatively agree; 5 = agree; 6 = strongly agree (self-efficacy toward end-of-life nursing care).

<sup>b</sup>P < .001.

<sup>c</sup>P < .05.

<sup>d</sup>P < .01.

**Table 3.** Overall Evaluation of the Program (N = 22).<sup>a</sup>

Parameter	Evaluation				
	Good	Relatively good	Neither	Relatively bad	Bad
The degree of satisfaction with the program	8 (36.4)	14 (63.6)	0 (0.0)	0 (0.0)	0 (0.0)
Appropriateness of the contents of the program	6 (27.3)	15 (68.2)	1 (4.5)	0 (0.0)	0 (0.0)
Appropriateness of the duration of the program	6 (27.3)	8 (36.4)	4 (18.2)	4 (18.2)	0 (0.0)
Usefulness of the program	10 (45.5)	12 (54.5)	0 (0.0)	0 (0.0)	0 (0.0)

<sup>a</sup>n (%).

### Validity of the Method of Program Development

Kolb<sup>24</sup> experiential learning theory is one of the most well-known and influential learning theories in the fields of education, medical science, and corporate management. Kolb defined the learning as one that the process whereby knowledge is created through the transformation of experience and divided the formational process of learning ability into 4 stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. A fourth-stage active experimentation has turned into a first-stage concrete experience, which begins the next cyclic process. These stages can be considered in the context of our program as follows: the participants, who brought in their “concrete experience” with

daily clinical activities, joined the program and became aware of their deficiencies in nursing activities or knowledge through lectures and group discussions; these led to “reflective observation.” After they acquired knowledge by listening to lectures regarding theories and concepts, “abstract conceptualization” may have occurred and have been utilized in a case study or presentation, which was subsequently translated into “active experimentation.” They could then adopt the next theme, reaffirmation of the importance of symptom management, which permeated the latter half of the program. Therefore, the structure of the program was appropriate in light of the learning process and may have contributed to its educational effectiveness.

As for the selection of group members, we requested that the nurses working in the same ward be included and that the group

consists of 1 veteran nurse, 2 mid-career nurses, and 2 novice nurses. Thus, the participants did not have to form new relationships; this made it easier to begin the learning sessions. Nicol and Reid<sup>25</sup> emphasized the importance of mutual learning—which includes informal learning elements, such as reflection, mentorship, and preceptorship—in palliative care education. As each group in this program comprises different generations of nurses, reflection was conducted from diverse perspectives, and mentorship took place, indicating a progression of informal, interactive learning. Further, Hersey et al<sup>26</sup> advocated that the person leading the change should change first in order to reform the behavior of the entire group. The participants in our program were the prospective persons leading the change in promoting end-of-life nursing care; accordingly, the method implemented to launch our program was considered effective in the generation of organizational changes.

On the bases of the above mentioned observations, this program was deemed capable of contributing to the advancement of participants' end-of-life nursing care ability. Furthermore, the program's method of implementation was thought to enhance its educational effects.

### Feasibility of the Program

The program was evaluated highly by the participants in terms of satisfaction, content, and duration. All the participants appreciated the usefulness of the program, with 100% calling it “fairly helpful” or “helpful.” In the free answer questionnaire administered 2 months after the end of the program, some participants gave forward-looking opinions about end-of-life nursing care, suggesting that their high levels of interest in end-of-life nursing care had been preserved. In this respect, the program was considered useful.

However, some participants said, “attending a class after a day shift was hard,” or “the course was too long.” In the future, the program environment should be improved so that hospital nurses find it easier to participate.

### Study Limitations and Future Implementation

The participants in this study were those who wanted to join and voluntarily applied for the program. As the participants were generally interested in end-of-life nursing care, the program began smoothly, and it was easy to obtain educational results in this group. There were certain selection biases. However, this study and program were still at a trial stage, and when the burden on participants taken into consideration, voluntary application for the program was considered inevitable. In the future, our program should be introduced as an in-service training course in collaboration with internal specialist nurses.

### Acknowledgments

We would like to express our sincere gratitude to all the participants in this study.

### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was funded by a Grant-in-aid for Young Scientists (B), No. 22792207 from the Japan Society for the Promotion of Science.

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