Nursing & Health Sciences

WILEY

Nursing & Health Sciences

RESEARCH ARTICLE OPEN ACCESS

Evaluation of a Palliative and End-of-Life Care Education Program for Healthcare Workers

Chizuru Nagata[1] | Aiko Tanaka[2]

[1]Division of Community/Gerontological Nursing, School of Health Sciences, Yamaguchi University Graduate School of Medicine, Ube, Japan | [2]Division of Fundamental Nursing, School of Health Sciences, Yamaguchi University Graduate School of Medicine, Ube, Japan

Correspondence: Chizuru Nagata (nagata@yamaguchi-u.ac.jp)

Received: 28 April 2025 | **Revised:** 20 May 2026 | **Accepted:** 21 May 2026

Keywords: focus groups | job satisfaction | long-term care | mixed methods | palliative and end-of-life care | program evaluation

ABSTRACT

With growing global demand for high-quality palliative and end-of-life care in community-based settings, continuing education for care staff has become increasingly important. However, access to structured education remains limited, particularly in long-term care facilities. This study evaluated a palliative and end-of-life care education program comprising an education session and a focus group discussion using an embedded mixed-methods design. Thirty-nine healthcare workers from a small-scale, community-based facility participated in this study, and the online education was evaluated measuring four indicators—knowledge, confidence, and motivation, difficulties providing care, and job satisfaction—at three time points (before, after, and 3 months after), alongside qualitative data. Analysis indicated significant improvements in knowledge and confidence, with a notable reduction in difficulties observed 3 months post-program. While overall job satisfaction showed no significant change, the "enhanced sense of efficacy" sub-item increased significantly. Thematic analysis of focus group discussion and descriptive feedback confirmed enhanced knowledge and highlighted opportunities for further discussion. This suggests the program positively impacted care quality and job satisfaction. Long-term follow-up is suggested to confirm this effect and improve palliative and end-of-life care.

1 | Introduction

Over 56.8 million people worldwide require palliative care annually, with 25.7 million being at the end of life (World Health Organization 2020). Nevertheless, at least half the global population lacks adequate access to such care (Worldwide Hospice Palliative Care Alliance 2020). Urgent improvements in palliative and end-of-life care (PEoLC) are needed, as healthcare professionals, including care workers, often have insufficient knowledge, skills, education, and training (Iida et al. 2021; World Health Organization 2020).

Over the last decade, countries, including the United Kingdom (UK), have introduced policies encouraging people to choose to die at home if that is their wish (Driessen et al. 2021). In Japan, a 2019 survey found that 51.0% of individuals aged ≥ 60 years wished to spend their final days at home if recovery was not expected (Cabinet Office, Government of Japan 2019). Japanese national statistics show that hospital deaths declined from 76.3% in 2010 to 64.5% in 2021, while deaths at home and care facilities increased from 12.8% to 17.4% and from 4.6% to 11.0%, respectively (Ministry of Health, Labour and Welfare 2022). This is a significant issue in Japan where there is a famously "superaged society": Japan's aging rate reached 29.1%, with ~36.2 million people aged ≥ 65 years in 2023 (Statistics Bureau, Ministry of Internal Affairs and Communications, Government of Japan 2023). Among them, an estimated 10 million people were living with dementia, including those with mild cognitive impairment, accounting for 27.8% of the older population (Ministry of Health, Labour and Welfare 2023a). Therefore,

Practitioner Points

- In Japan, a growing number of people living with dementia and cancer in community facilities who are reaching the end of life and education for these staff is lacking.
- The results suggest that the education program enhanced knowledge, confidence, and motivation regarding practicing palliative and end-of-life care and reduced difficulties in providing the care.
- The intervention using this education program may contribute to an increased sense of efficacy, which constitutes part of job satisfaction among nurses and care staff.

enhancing PEoLC for older adults with dementia is an urgent priority.

According to the Ministry of Health, Labour and Welfare (2023b), preferences for home death in Japan have declined sharply among people with terminal illness or dementia. In 2022, only 14.7% of respondents preferred home deaths for people with dementia, a sharp decline from 63.5% in 2017, while preference for facility-based deaths rose to 53.1%. A similar decline in home death preference was seen among patients with cancer. These shifts reflect a growing reliance on institutional care. In the United States (US), most dementia-related deaths occur in nursing homes, with hospital deaths under 10% in 2020 (Cross et al. 2020).

Although few peer-reviewed studies have examined structured PEoLC training and workforce challenges in Japan, practitioner reports and national policy documents indicate persistent issues, including limited access to interdisciplinary education and shortages of qualified staff in community-based settings (Tsuneto 2013). These systemic issues persist despite national efforts to promote integrated care, revealing a gap between policy intent and practical implementation. While policies such as the Community-based Integrated Care System promote aging in place, recent studies reveal regional disparities in workforce capacity and opportunities for professional development (Aoki et al. 2025). Strengthening education and training systems is therefore essential to support sustainable, high-quality PEoLC. These challenges are not unique to Japan. Similar concerns have been reported internationally, particularly in long-term care settings where staff frequently lack access to structured, role-specific education. Systematic reviews have examined various educational interventions for care staff, including person-centered and end-of-life care approaches (Pakkonen et al. 2021). A recent systematic critical realist review of interventions designed to improve end of life care in care homes concluded that, despite the poor quality of the evidence available, education and interprofessional collaboration can be effective in improving end of life care in care homes at least as long as the interventions are being applied (Spacey et al. 2020). The educational focus of the reviewed interventions differed but included: EoL discussions with residents and relatives and advance care planning; leadership and communication with external services; overarching principles such as person-centered and dignified EoLC; education on identifying the signs and symptoms of the EoL; education about dementia; symptom and pain management (Spacey et al. 2020). Integrating palliative care into these community-based residential settings, particularly for people with dementia, is widely supported by clinical evidence and international guidelines. Studies emphasize that providing PEoLC within these settings significantly benefits residents by improving comfort, managing behavioral symptoms, and preventing burdensome hospital transfers (Gupta and Patel 2024). Furthermore, leading scientific societies, including the European Association for Palliative Care (EAPC), strongly advocate for a dementia-specific approach that supports individuals in familiar environments (Nakanishi et al. 2024). While the EAPC has also developed educational frameworks and competency guidelines applicable to long-term care contexts, their direct implementation and evaluation in Japanese practice remain limited. Grounding our study in this evidence-based framework highlights the critical necessity of equipping caregiving professionals with the specialized skills required to deliver high-quality PEoLC.

2 | Background

To address challenges in community-based PEoLC, we identified in a previous study (Nagata et al. 2021), we designed an education program which this paper describes. While the results suggested a positive impact, only basic knowledge and self-reported satisfaction were measured, limiting objective evaluation. Additionally, a national survey found that nurses working at facilities providing more PEoLC reported significantly lower job satisfaction than those in community-based facilities providing less; meanwhile, care workers' job satisfaction was significantly higher than that of nurses, although the response rate was low (19.0%; Nagata et al. 2020).

To enhance PEoLC in community-based facilities, educational interventions must move beyond basic knowledge acquisition. Effective programs should address emotional support, the preservation of dignity, spiritual care, and communication skills (Kim and Kim 2024; Wulandari and Rochmawati 2025). When effectively implemented, such interventions can improve care providers' job satisfaction (Pakkonen et al. 2021).

While most studies on hospice and palliative care nurses' work experiences focus on stress, compassion fatigue, and burnout (Brighton et al. 2019; Sansó et al. 2015), very few examine job satisfaction in relation to PEoLC. In Japan, one study found a positive correlation between hospital nurses' satisfaction with PEoLC and job satisfaction (Nishio and Kimura 2013). Another in a nursing home setting reported that a sense of coherence mitigated stress and enhanced job satisfaction; PEoLC was perceived as a fulfilling caregiving task (Hirono 2018). However, recent findings suggest that compassion satisfaction does not always correlate with job satisfaction and work engagement (Higashibata et al. 2023).

Internationally, survey data have supported the significance of interpersonal and emotional factors. For instance, a study of 633 nurses registered with the Hospice and Palliative Nurses Association reported high-level job satisfaction linked to

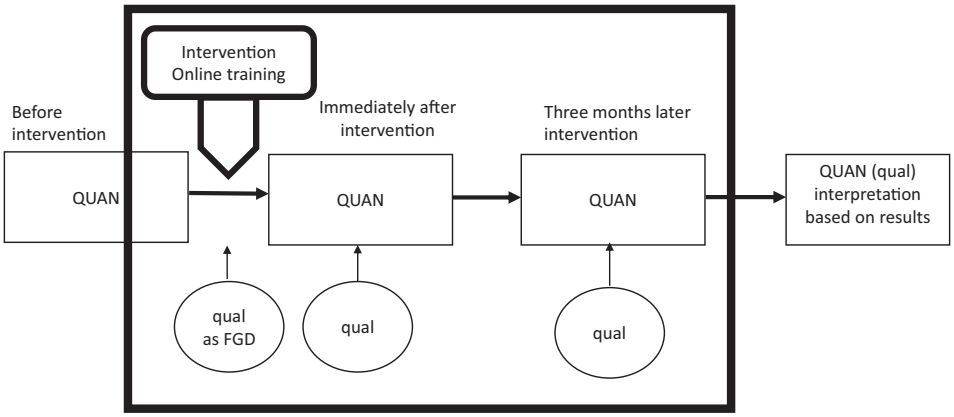

FIGURE 1 | Embedded experimental design. FGD: focus group discussion; qual: qualitative research; QUAN: quantitative research.

patient care, team collaboration, and professional pride (Head et al. 2019). These insights reinforce educational interventions' potential to enhance PEoLC competencies and care providers' well-being.

Accordingly, we conducted a field study at a small-scale, community-based care facility to implement a revised, structured online educational intervention strengthened by the involvement of a senior clinical specialist (CNS), Certified Nurse Specialist in oncological nursing and palliative care. It was considered that participation by healthcare workers—including nurses, care workers, and social workers—in this program may be effective in enhancing PEoLC in small-scale, community-based care facilities (Nagata et al. 2021; Murakami et al. 2018). This study evaluated whether the revised education program could enhance healthcare workers' competencies and job satisfaction to facilitate PEoLC in community-based settings. Based on previous findings, we hypothesized that participation in the education program would enhance healthcare workers' knowledge, confidence, and motivation regarding PEoLC, reduce perceived difficulties, and increase job satisfaction. We also explored whether these effects would persist 3 months later.

3 | Methods

3.1 | Study Design

This study employed an embedded mixed methods design (Creswell and Plano Clark 2017), concurrently collecting qualitative and quantitative data within an integrated education program (Figure 1). The quantitative component included pre- and post-intervention surveys to assess changes in participants' knowledge, confidence, motivation, difficulty, and job satisfaction. One qualitative component was descriptive data from the surveys. Focus group discussions (FGDs; Gundumogula 2020) were also embedded as part of the education sessions. The FGDs functioned as reflective and educational elements and provided data contextualizing to supplement the quantitative results and qualitative data. This enabled a comprehensive evaluation of the intervention's impact linking measurable outcomes with participants' experiences, integrating both at the interpretation stage.

3.2 | The Education Program

The education program (Table 1) aimed to enhance PEoLC-related knowledge, confidence and motivation, and job satisfaction while reducing difficulties in providing PEoLC. It was structured around three core aspects: the philosophy of PEoLC; total pain and symptom relief, and sharing of PEoLC experiences. The program included interactive talks and focus group discussions (FGDs). Each segment featured two presentations, followed by discussions among five focus groups of 7–8 participants each. These groups comprised a mix of nurses, care workers and social workers. In the Japanese dementia group home setting, care workers are the primary 24-h providers, while medical staff like nurses are not always stationed on-site. This structural gap makes the role of care workers critical in monitoring subtle changes and acting as a bridge to medical professionals. Therefore, joint education was designed to enhance interprofessional communication and foster a mutual understanding of each other's complementary roles, bridging the gap between daily life support and medical oversight. The researcher delivered an education session on the significance of PEoLC in community-based care facilities, based on the premise that palliative care knowledge and skills are essential even in care facilities. Meanwhile, the CNS covered key points on pain and symptom management in cancer care and outlined expectations for community-based facilities. The program focused on improving patient comfort; recognizing physical changes near death; liaison with health professionals, and supporting families. The CNS also addressed pain assessment and medication use for patients with dementia and cancer.

The education program incorporated FGDs to facilitate peer learning and deepen participants' understanding of PEoLC. FGDs allowed participants to exchange insights on PEoLC initiatives at their facilities, explore ways to create supportive environments, and discuss collaboration with medical professionals. Mixed groups, comprising nursing and care staff from three facility types (dementia-specific group homes, small-scale multifunctional care homes, and geriatric healthcare facilities), were formed. Heterogeneous group composition was intended to foster dynamic discussions and promote mutual understanding (Femdal and Solbjør 2018).

TABLE 1 | Education program content.

Aim: For participants to: • Implement end of life care for people with dementia and cancer in their own work setting • Create an environment where the needs of patients and staff are valued • Develop strategies to deal with challenges arising from working with PEoLC • Demonstrates increased efficacy in dealing with PEoLC
Structure: Comprises three aspects: 1. Philosophy of PEoLC 2. Relief of pain and symptoms 3. Sharing the experience of PEoLC, a sense of accomplishment, and a feeling of exhaustion (focus group discussion)
Education sessions
Importance of caring for PEoLC in community-based care facilities
Strategies to implement excellence in care for people at the end of life
Pain and symptom relief for people with both dementia and cancer at the end of life
Focus group discussion
Small group discussions on caring experiences in PEoLC, followed by a large group summary and reflection

3.3 | Participants

Participants were recruited through the Toyama Prefecture Council from dementia-specific group homes and small-scale multifunctional care homes during an open workshop in 2022 and through a recruitment event for geriatric healthcare facility staff in 2021. Healthcare workers—including nurses, care workers, and social workers, and so forth—interested in PEoLC for people with dementia and cancer who are approaching the end of life were selected, regardless of prior experience with PEoLC. One researcher moderated each group discussion. These sessions were conducted as one-time education sessions for different staff groups.

3.4 | Quantitative Data Collection

Data were collected at three time points: before, immediately after, and 3 months after intervention. Evaluations were conducted using five measures, four of which had established reliability and validity. The fifth measure assessed participants' satisfaction with the education program and was independently developed based on the Kirkpatrick model (Kirkpatrick and Kirkpatrick 2005), a widely used framework for evaluating nursing programs (Jones et al. 2018). Three scales developed by Shimizu et al. (2016) were used to assess Knowledge, Confidence and motivation, and Difficulties. These scales were originally developed for nurses caring for people with cancer. It was selected for this study because the education program addressed symptom and pain management for people with cancer and dementia, and the core competencies measured are relevant across care settings, including long-term and dementia care facilities. The scale's creators also state that it can be used by professionals other than community nurses. Job satisfaction was measured using a scale developed by Eguchi et al. (2014). These two indicators' reliability and validity were verified through prior research.

Satisfaction with the education program and changes in awareness and behavior were assessed using an independently developed scale. Knowledge was assessed using 26 items on a three-point scale with response options of "true," "false," and "don't know." Confidence and motivation were assessed using 12 items, Difficulties with 18 items, and Job satisfaction with 66 items, all rated on a five-point Likert scale ranging from "none" to "very much."

The 66-item Job Satisfaction Index comprised 16 subscales: relationship with supervisor (4 items), relationship with colleagues (3 items), relationship with the cooperation of the nursing team (5 items), relationship with physicians (4 items), relationship with professions other than physicians (3 items), relationship with patients (5 items), relationship with patients' families (3 items), workload (5 items), duties other than nursing (4 items), salary (4 items), autonomy (5 items), enhanced sense of efficacy (6 items), learning opportunities (5 items), working environment (5 items), and social evaluation (2 items).

Participants' satisfaction with the education program was assessed using five items, each accompanied by descriptive questions, and utilized as qualitative data. The immediate post-intervention questionnaire contained five questions rated on a five-point scale from "none" to "very much." It addressed five aspects: participants' interest in the education program content, comprehension, meaningfulness and satisfaction, perceived applicability, and agreement with PEoLC in community-based facilities. The 3-month follow-up questionnaire included four items rated on a five-point scale, assessing whether participants had practiced PEoLC, reconsidered and recognized PEoLC after the intervention, initiated new PEoLC efforts, applied education program content in their facilities, actively practiced PEoLC, and found the education program meaningful and satisfactory. Both surveys included open-ended sections for additional participant feedback.

Assessments of knowledge, confidence and motivation, and difficulties were conducted before, immediately after, and 3 months after intervention. Job satisfaction was measured before and 3 months after intervention while changes in awareness and behavior were evaluated immediately after and 3 months later.

3.5 | Quantitative Data Analysis

Quantitative survey data were summarized, and knowledge, confidence and motivation, and difficulty were analyzed using repeated measures ANOVA across three time points. Job satisfaction was compared between two time points using the Wilcoxon signed-rank test. We examined the relationship between changes in awareness and behavior regarding PEoLC and job satisfaction. Statistical analyses were performed using the Japanese version of IBM SPSS version 25.

3.6 | Qualitative Data Collection

During the FGDs, participants reported on PEoLC practices and responsibilities at their facilities, and experienced participants addressed questions from those with limited PEoLC experience. Immediately after the intervention, descriptive data on participants' interest in, comprehension of, and satisfaction with the education program content were collected. Furthermore, 3 months after the intervention, data regarding whether participants reconsidered and recognized PEoLC, started new PEoLC initiatives, applied the education program content to their facilities, actively practiced PEoLC, and found the education program meaningful and satisfying were collected.

3.7 | Qualitative Data Analysis

Focus group discussion speech data were analyzed using a thematic approach. Two researchers applied per-line coding to all de-identified transcripts. Researchers discussed the codes, data interpretation, and data saturation. This involved extracting common patterns and themes from assigned codes, re-evaluating extracted themes, and making necessary modifications and additions based on the data (Morgan and Nica 2020). Data saturation was considered achieved when no new themes emerged and key patterns were consistently repeated across the final focus group discussions. Descriptive data from feedback collected at two time points, immediately after and 3 months following the education program, were analyzed with correspondence analysis using text mining via KH Coder version 3.0 (Higuchi 2014).

3.8 | Researcher Positionality and Reflexivity

Two nursing professors were involved in the research. Chizuru Nagata, a highly experienced community nurse, has been involved in caring for people with dementia and PEoLC. Aiko Tanaka specializes in fundamental nursing and has been deeply involved in caring practices, oncology nursing, and PEoLC. Both have engaged extensively in quantitative and qualitative research.

To mitigate potential biases arising from our professional backgrounds and ensure qualitative rigor, we employed specific mitigation strategies during the analysis. For the thematic analysis of the focus group discussion, researchers initially analyzed the data independently. Subsequently, the research team met to compare their findings, engaging in iterative discussions until a consensus was reached. To further enhance credibility and reduce subjective interpretation, the preliminary results were reviewed by two additional researchers who participated in the education program but were not involved in the primary data analysis; their feedback was incorporated to refine and clarify the findings.

3.9 | Ethical Considerations

Participants were informed of the study's purpose and assured that participation was voluntary and that they had the right to withdraw at any time. They provided written consent for participation in the education program and for recording the FGDs. This study was approved by the ethical review board of School of Health Sciences Yamaguchi University Graduate School of Medicine (approval number: 688-1, 25/10/2021).

4 | Results

4.1 | Participant Characteristics

On the education program day, 39 participants were included (Table 2): 18 from dementia-specific group homes, 11 from geriatric healthcare facilities, nine from small-scale multifunctional care homes, and one from another type of facility. Of them, eight were nurses, 27 were certified care workers, two were social workers, and two were home helpers. The mean professional experience was 17.12 ± 9.10 years, while the average experience at their facility was 7.45 ± 5.63 years; 25 participants (64.1%) had prior PEoLC experience.

4.2 | Quantitative Findings

4.2.1 | Pre- and Post-Intervention Comparison

Nine participants who provided pre-intervention data failed to provide data immediately and/or 3 months after the intervention. After excluding these participants from the final sample, 30 valid responses were included in the analysis. The 30 participants comprised 13 staff members from dementia-specific group homes, 10 from geriatric healthcare facilities, and seven from small-scale multifunctional care homes. Among them, six were nurses, 22 were certified care workers, and two held other roles. The mean duration of professional experience was 19.2 ± 9.0 years, and the average length of employment at their current facility was 8.0 ± 5.9 years. Twenty-five participants (63.3%) had prior experience in providing PEoLC.

TABLE 2 | Participant characteristics ($N = 39$).

Characteristics	Classification	*n* (%)
Age (years)	20s	2 (5.1)
	30s	9 (23.1)
	40s	11 (28.2)
	50s	11 (28.2)
	≥ 60	6 (15.4)
Sex	Male	7 (17.9)
	Female	32 (82.1)
Occupation	Nurse	8 (20.5)
	Certified careworker	27 (69.2)
	Social worker	2 (5.1)
	Home helper	2 (5.1)
Type of care facility	Dementia-specific group homes	18
	Geriatric healthcare facilities	11
	Small-scale multifunctional care homes	9
	Other	1
Professional experience (years) Mean 17.12 ± 9.10	< 5	1 (2.5)
	5–9	8 (20.5)
	10–14	11 (28.2)
	15–19	4 (10.3)
	≥ 20	15 (38.5)
Experience at the community-based facilities (years) Mean 7.45 ± 5.63	< 5	16 (41.0)
	5–9	13 (33.3)
	10–20	10 (25.7)
Practical experience in palliative and end-of-life care (cases) $n = 36$ (3 non-responses)	0	14 (38.9)
	1–4	9 (25.0)
	5–9	7 (19.4)
	≥ 10	6 (16.7)

4.2.2 | Changes in "Knowledge," "Confidence and Motivation," and "Difficulties"

Results from the analysis of repeated measures ANOVA and two-group comparisons (Figure 2, Table 3) showed that the number of correct responses on the 26-item knowledge scale increased significantly ($p < 0.001$), with the mean score rising from 9.83 ± 5.73 before intervention to 16.70 ± 4.47 immediately after intervention and 15.83 ± 4.67 3 months later. The mean score of confidence and motivation, rated on a five-point scale with 12 items, significantly increased from 25.17 ± 10.68 before intervention to 29.83 ± 11.29 immediately after ($p < 0.001$) and 31.60 ± 13.81 3 months later ($p < 0.003$). Difficulties, rated on a five-point scale with 18 items, significantly decreased from 60.73 ± 15.02 before intervention to 58.53 ± 14.12 immediately after and 54.90 ± 14.99 3 months later ($p < 0.030$).

4.2.3 | Evaluation of Job Satisfaction

Job satisfaction, measured on a five-point scale with 66 items, showed no significant difference before and after the education program. Scores were 188.90 ± 39.44 before intervention and 197.00 ± 41.09 3 months later ($p = 0.237$). Additionally, no significant differences in job satisfaction were found between six nurses and 22 care workers, with $p = 0.682$ before the intervention and $p = 0.723$ after the intervention. However, the unequal sample sizes may limit the statistical power to detect differences.

Results of a comparative analysis before and after the intervention using Wilcoxon signed-rank tests (Table 4) on subscale items showed that "enhanced sense of efficacy" significantly increased ($p = 0.009$), "relationship with supervisor" indicated an increase ($p = 0.033$). The subscale items showed that "relationship with supervisor" ($p = 0.008$) and "enhanced sense of efficacy" ($p = 0.008$) significantly increased for participants who reconsidered and recognized the value of PEoLC after the intervention. Participants who made new efforts toward PEoLC after the intervention showed significant improvements in "relationship with colleagues" ($p = 0.034$) and "enhanced sense of efficacy" ($p = 0.029$). Participants who reported that the intervention content was applied in practice at their facilities showed significant increases in "relationship with colleagues" ($p = 0.020$), "enhanced sense of efficacy" ($p = 0.032$), and "autonomy" ($p = 0.020$). For participants who practiced PEoLC after the intervention, job satisfaction increased overall ($p = 0.050$), with significant improvements in "relationship with supervisor" ($p = 0.020$), "relationship with colleagues" ($p = 0.027$), "relationship with patients' families" ($p = 0.026$), "workload" ($p = 0.030$), and "enhanced sense of efficacy" ($p = 0.042$). Participants who found meaningfulness in the education program showed significant increases in "relationship with supervisor" ($p = 0.045$) and "enhanced sense of efficacy" ($p = 0.019$).

4.2.4 | Feedback on the PEoLC Education Program

According to the survey conducted immediately after the program, participants rated the five aspects at least 3 out of 4. Three months after the education program, mean perceived meaningfulness increased from 3.36 to 3.52, while the mean score for reconsideration and recognition of PEoLC was 3.24. However, new efforts toward PEoLC and application of the education program content in practice remained in the 2-point range, indicating no significant change in behavior after intervention.

4.3 | Qualitative Findings

4.3.1 | Insights From the FGDs

Participants' practice of PEoLC in their facilities was categorized into two key elements necessary for PEoLC: (1) knowledge and skills and (2) the environment. These categories emerged from the coded data (Appendix A).

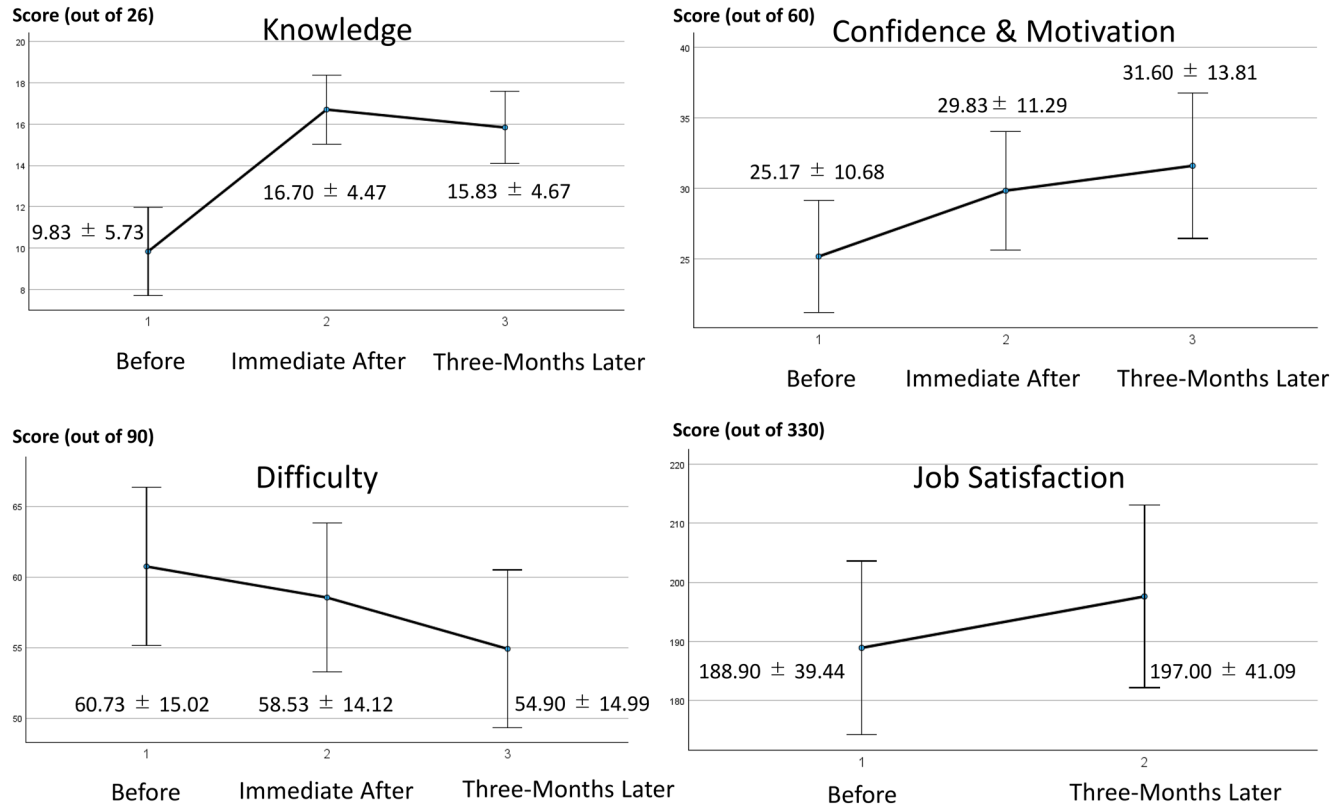

FIGURE 2 | Findings from the quantitative analysis regarding palliative and end-of-life care.

TABLE 3 | Comparison of outcomes using Wilcoxon signed rank tests ($N = 30$).

Item	Before (mean ± SD)	Immediately after (mean ± SD)	Before vs. immediately after *p* value	Three months later (mean ± SD)	Immediately after vs. 3 months later *p* value	Before vs. 3 months later *p* value
Knowledge	9.83 ± 5.73	16.70 ± 4.47	$p < 0.001$**	15.83 ± 4.67	$p < 0.001$**	$p < 0.001$**
Confidence and motivation	25.17 ± 10.68	29.83 ± 11.29	$p < 0.001$**	31.60 ± 13.81	$p = 0.835$	$p = 0.003$**
Difficulties	60.73 ± 15.02	58.53 ± 14.12	$p = 0.515$	54.90 ± 14.99	$p = 0.177$	$p = 0.030$*
Job satisfaction	188.90 ± 39.44	—	—	197.00 ± 41.09		$p = 0.237$
Nurses ($N = 6$)	194.17 ± 27.61	—	—	188.00 ± 34.14		$p = 0.463$
Certified caseworkers ($N = 22$)	183.77 ± 40.41	—	—	196.77 ± 42.32		$p = 0.091$

Note: Results of repeated measures ANOVA (for knowledge, confidence and motivation, difficulties) and Wilcoxon signed-rank test (for job satisfaction). Values are expressed as mean ± SD.
*$p < 0.05$ (statistically significant).
**$p < 0.01$ (highly significant).

4.3.1.1 | Theme 1: Knowledge and Skills. This theme is twofold: firstly, participants reflected on the observations inherent in caring for people in their last days and secondly on the other skills they needed and how they acquired the knowledge and skills.

Participants recognized the importance of observation and judgment in activities of daily living, such as judging that the end-of-life period is approaching by observing changes in patients' eating habits.

> P1: When swallowing difficulties begin to appear, that is the time to start discussions about end-of-life.
>
> (Care worker, working in dementia-specific group homes)

TABLE 4 | Changes in overall job satisfaction and its subscales before and after the intervention, analyzed according to participants' responses to PEoLC[a] (reconsideration and recognition, new efforts, application in practice, practice of PEoLC1, and perceived meaningfulness of the training).

	Before (mean ± SD)	Three months later (mean ± SD)	*p*	*r*
Comparison analysis for two-group (before vs. 3 months later) job satisfaction subscale ($N = 30$)				
Enhanced sense of efficacy	17.27 ± 4.52	19.07 ± 4.08	0.009**	0.336
Relationship with supervisor	12.00 ± 3.29	13.13 ± 3.05	0.033*	0.276
Comparison analysis for two-group (before vs. 3 months later) job satisfaction subscale items (reconsideration and recognition, new efforts, application in practice, practice of PEoLC1, and perceived meaningfulness of the training)				
Participants reconsidered and recognized PEoLC[a] after the education program ($N = 12$)				
Relationship with supervisor	12.04 ± 3.41	13.43 ± 2.92	0.008**	0.538
Enhanced sense of efficacy	17.50 ± 4.56	19.43 ± 3.89	0.008**	0.537
Participants made new efforts toward PEoLC[a] after training ($N = 12$)				
Relationship with colleagues	8.67 ± 2.44	10.08 ± 1.93	0.034*	0.433
Enhanced sense of efficacy	17.58 ± 5.50	19.58 ± 4.14	0.029*	0.447
Participants applied the training content in practice at their facilities after the education program ($N = 13$)				
Relationship with colleagues	8.85 ± 2.70	10.38 ± 1.90	0.020*	0.455
Enhanced sense of efficacy	18.00 ± 5.69	20.38 ± 3.93	0.032*	0.420
Autonomy	15.38 ± 5.19	17.54 ± 2.96	0.020*	0.455
Participants who practiced PEoLC[a] after the education program ($N = 13$)				
Job satisfaction overall	186.62 ± 52.44	200.08 ± 40.05	0.050*	0.384
Relationship with supervisor	11.54 ± 4.24	13.15 ± 3.05	0.020*	0.456
Relationship with colleagues	8.69 ± 2.87	10.00 ± 2.00	0.027*	0.434
Relationship with patients' families	9.31 ± 1.75	10.15 ± 1.35	0.026*	0.438
Workload	11.92 ± 4.15	13.23 ± 4.09	0.030*	0.427
Enhanced sense of efficacy	17.15 ± 6.00	19.00 ± 4.18	0.042*	0.399
Participants who found meaningfulness in this education program ($N = 28$)				
Relationship with supervisor	12.18 ± 3.31	13.18 ± 3.08	0.045*	0.268
Enhanced sense of efficacy	17.36 ± 4.67	19.11 ± 4.20	0.019*	0.313

Note: Results of Wilcoxon signed rank test. Values are expressed as mean ± SD. Effect sizes are reported as *r* (calculated as *Z* divided by the square root of the total number of observations).
[a]Palliative and end-of-life care.
*$p < 0.05$ (statistically significant).
**$p < 0.01$ (highly significant).

> P2: I think I'll also start having end-of-life discussions around the time we begin making specific changes to meals, like cutting food into smaller pieces or thickening liquids.
>
> (social worker, geriatric healthcare facilities)

> P3: Just recently, someone suddenly couldn't eat anymore and within about ten days passed away.
>
> (Care worker, working in dementia-specific group homes)

In terms of how they acquired knowledge participants described sharing information with other participants and watching educational videos as being important. They learned with an attitude of acquiring knowledge and skills by sharing information with staff about the PEoLC practices learned in the videos. Additionally, they collaborated with other professionals to learn from one another.

> P4: (In end-of-life feeding assistance) I'm slowly adding thickening agents little by little, but it's hard to judge when to stop. I watched videos to study, shared what I learned with other staff members, and held study sessions.
>
> (Care worker, working in dementia-specific group homes)

> P5: I think sharing information by watching videos together is useful, thank you. We also collaborate with Speech-Language-Hearing Therapist to provide meals safely and without discomfort, tailored to everyone's condition while sharing the experience with all staff members. (Nurse, geriatric healthcare facilities)

An aspect of the knowledge that participants highlighted as being critical was the need to understand the process of natural death and develop the skills to communicate the rationale for care to other staff and managers. It is difficult to convey to family but also to staff that some treatments are pointless and cause unnecessary suffering at the end of life. Some participants themselves struggled with the issue. They shared with participants the knowledge and experience they gained through the process of accepting natural death in PEoLC.

> P4: (In end-of-life feeding assistance) The nurses would tell me, "If the patient can't take any more fluids, you don't have to force him." But I didn't know how to judge when it was too much. I often felt conflicted.
>
> (Care worker, working in dementia-specific group homes)

> P6: Toward the end, there was nothing more to be done. The staff experienced considerable inner conflict—torn between the urge to act and the painful reality that nothing could truly be done. Many voiced concerns, questioning whether IV fluids might help with the phlegm, or whether more frequent suctioning would be beneficial. At that point, the attending physician offered a clear and compassionate explanation: "In this condition, the body won't accept an IV drip; it would only cause more suffering." With that, the staff were able to let go of the need to intervene and began to come to terms with the patient's approaching death. (Care worker, working in geriatric healthcare facilities)

> P7: This was my first end-of-life care case, for a person with early-onset dementia in their early 60s. There were no IVs or oxygen, just the occasional suctioning. At the end, there was no pneumonia or fever—just quietly passed away, as if withering away. What can I say? Being able to provide PEoLC at such a relatively young age was an incredibly profound experience.
>
> (Care worker, working in dementia-specific group homes)

The need to care for family members and care workers experiencing grief was also emphasized, including the importance of sharing a sense of satisfaction with family members and staff after PEoLC.

> P8: As we discussed during the session, people are born and inevitably die. What matters most is how fulfilling their lives are before that final moment. Even if end-of-life care is excellent, it means little if the life lived beforehand was not meaningful. If it wasn't, the family is unlikely to feel at peace either. Care is important, of course—but family matters even more. Our focus is on how well we can bridge the emotional and relational gap between the patient and their family at the end. That connection supports not only the family's grieving process but also the staff's, helping them find meaning in their role and closure in the loss. (Nurse, working in dementia-specific group homes)

By confirming the therapeutic effects of pain relief practices and recognizing the importance of PEoLC planning in care facilities, participants came to understand that such planning can be achieved without medical intervention. This realization enhanced their motivation to provide daily care that contributes to PEoLC planning.

> P9: We don't have any nurses. So, when I heard from a CNS at a lecture that if I had been able to convey the patient's words well, it would have given me a hint that I should adjust the medication to alleviate the pain. I thought because I did not have such knowledge, I was making the patient feel overwhelmed.
>
> (Care worker, working in dementia-specific group homes)

> P10: I didn't know anything about things like pain, pain relief or cancer. Now, we have one patient with cancer, and this experience helped me understand their condition. I want to gain a clear understanding of the current state of PEoLC, share this knowledge with all staff members, and use it to enhance our knowledge and skills.
>
> (Care worker, working in small-scale multifunctional care homes)

> P8: Right now, we have also one patient with cancer here. The situation is developing where they're being transferred to a hospital against the wishes of both the family and the patient themselves. Still, I want to make it a given that we can properly support the family and the patient's wishes. To take that first step, I want to start by asking each staff member how they feel about this.
>
> (Nurse, working in dementia-specific group homes)

> P11: Ultimately, it is the end of life, after death, that matters. ... I think it is important to build on what we could have done better. But it is very difficult to say,

> "This is the way it should be," so I think if people share their experiences with PEoLC and their problems not only at this meeting but also at other occasions, it will make it possible to provide PEoLC that is not common in facilities to those who wish to receive it. (Nurse, working in dementia-specific group homes)

4.3.1.2 | Theme 2: Environment. Creating the environment necessary for PEoLC required an understanding of the educational support for PEoLC practices, including participation in the education program to understand end-of-life characteristics and care, and real-time descriptions of the characteristics of end-of-life physical changes was also emphasized.

> P12: Something about PEoLC. If so, I'd like to hear what, if anything, I should do. First, I want to discuss with my colleagues what to do. I want to start with what I can do.
>
> (Care worker, working in dementia-specific group homes)

> P10: Care workers who have never provided PEoLC do not know what to do. They wonder how much to move the patient's body and when and how much to report. As death approached, we held meetings to discuss the patient's condition and give instructions on how to handle the situation.
>
> (Nurse, working in dementia-specific group homes)

> P13: I think [training] is necessary. I don't know to what extent, though. (Care worker, working in small-scale multifunctional care homes)

The establishment of an organizational structure through committees, guidelines, and documentation was crucial for maintaining PEoLC manuals and consent forms, thereby aligning interdisciplinary perspectives and facilitating collaborative practice.

> P2: The facility manager, nurse, and doctor jointly explain the situation to the family and obtain consent for end-of-life care. While some family members make immediate decisions, others take time before agreeing.
>
> (Care worker, working in dementia-specific group homes)

> P13: Care workers often experience anxiety regarding their role in end-of-life care. It is essential to involve them beyond medical tasks by empowering all team members, not only nurses, to assess and recognize even subtle changes in a patient's condition.
>
> (Care worker, working in small-scale multifunctional care homes)

> P10: First, we repeatedly held conferences to better understand the anxieties faced by care workers who had never experienced end-of-life care, providing individualized support to each person. We also created a manual explaining the typical dying process. As a team, we made a conscious effort to continue interacting with each resident in a familiar and ordinary manner.
>
> (Nurse, working in dementia-specific group homes)

> P14: We created the booklet for "Living Vibrantly and Passing Away Peacefully" to promote understanding of PEoLC. This was created in response to feedback from new staff members stating, "Explaining end-of-life care to families is extremely difficult."
>
> (Nurse, working in geriatric healthcare facilities)

> P15: Since I had no experience with PeoLC, the booklet was a great help when explaining things to the family. The family was confused, saying, "She is still in good health—why are we thinking about this already?" But using this booklet, all the staff were able to explain things in the same way. (Care worker, working in geriatric healthcare facilities)

Factors regarding the establishment of the system included connecting with the medical profession, collaboration and healthcare systems.

> P9: Last year, we set up a PEoLC committee and developed relevant guidelines, consent forms, and other documents.
>
> (Care worker, working in dementia-specific group homes)

> P13: When the doctor judged that it was nearly time for PEoLC, a conference was held with the family, the doctor, and the visiting nurse as soon as possible. (Care worker, working in small-scale multifunctional care homes)

Discussions specifically focused on suctioning practices in nursing facilities. At one facility, nurses performed suctioning themselves, whereas at another, certified nurses provided individualized training to each certified caseworker in suctioning techniques.

> P16: Currently, we are not providing PEoLC. One person suctioning, but since only care staff are on duty at night, we couldn't handle it. The other was in the terminal stage of cancer and had been managed with narcotics, but their pain worsened. Last month, based on the nurse's judgment, both were transferred to the hospital. What does the booklet say about the

> types of medical care that can be provided in a care facility?
> (Care worker, working in small-scale multifunctional care homes)

> P16: In small-scale multifunctional care facilities, nursing staff are absent at night, and even during the day, it's difficult for them to handle suctioning and other tasks continuously. Caregivers are also not accustomed to PEoLC.
> (Care worker, working in small-scale multifunctional care homes)

> P17: I underwent training to become an instructor capable of teaching suctioning techniques, and then patiently instructed each of my fellow care workers individually. I ensure they perform the procedure safely, without applying excessive pressure, to avoid damaging the mucous membranes. (Nurse, working in dementia-specific group homes)

The system of care worker involvement in PEoLC, and an appropriate environment for care workers. PEoLC is primarily implemented in nursing care centers, and it was noted that a system enabling the involvement of certified care workers must be established to ensure an appropriate care environment.

> P18: I think nurses are mainly involved in PEoLC, and it is difficult for care workers to be involved in care.
> (Care worker, working in small-scale multifunctional care homes)

> P19: I agree. So, I told the care worker that when they come to work in the morning, they should stop by the patient's room and say “Good morning,” and when the care worker has some free time between jobs, they should go to the patient's room and hold their hand, and when leaving, say, “See you tomorrow.” Group homes are like an extension of the home, so I think it is important to provide a home-like environment where the person can be cared for. I have found it is important to share with the entire staff that even facilities without nurses can provide PEoLC.
> (Care worker, working in dementia-specific group homes)

Care workers experienced confusion and anxiety related to PEoLC, including fear of patient death during night shifts. These concerns were eased through inter-professional collaboration, especially the constant availability of medical orders and open communication with nurses and physicians.

> P2: Frequent visits from the physician and the cooperative attitude of the nurses fostered a positive atmosphere. When nurses were supportive, care workers also responded positively, contributing to a sense of unity. The active involvement of both the physician and nurses, along with regular family visits, helped create a reassuring and harmonious environment. (social worker, geriatric healthcare facilities)

> P20: Having a visiting nurse provided invaluable support. They acted as a liaison between us and the doctor, allowing us to consult them immediately whenever we had concerns, no matter how small. They responded appropriately and confirmed matters with the doctor as needed. Information from the nurse was promptly shared with the field staff, fostering a sense of security and facilitating smooth coordination. Overall, we received tremendous support from the visiting nurse.
> (Care worker, working in small-scale multifunctional care homes)

4.3.2 | Reflection From Open-Ended Survey Responses

A comparison of participant feedback immediately after and 3 months after the intervention was conducted using text mining via KH Coder. Results of the correspondence analysis (Figure 3) displayed differences in word frequency between the two time points along a single dimension. The correspondence analysis revealed a clear separation between Part 1 (immediately after education program) and Part 2 (3 months later). Terms related to initial impressions and learning experiences were more frequent in Part 1, whereas words reflecting practical application and confidence appeared more often in Part 2.

Immediately after intervention, participant impressions (represented by terms in the bottom left corner of Figure 3) included learning and understanding terminal cancer symptoms, the process of death from the education sessions. Participants learned and heard many experiences from the FGD, and they valued bringing the contents of the education session back to their facilities to integrate and apply the knowledge and approaches gained. They reported a deepened understanding of PEoLC, acknowledged that the education sessions were valuable despite medical topics being complex, and found both the education sessions and FGD informative. Some mentioned that their anxiety about death was reduced, and recognized the necessity of addressing PEoLC in professional settings. Additionally, the FGD provided a meaningful opportunity to hear about experiences from other facilities and reinforced the importance of creating a structured system for PEoLC.

Three months later intervention, participant feedback was less frequent compared to the feedback immediately after intervention (represented by words in the upper right corner of Figure 3). Participants viewed the education program as a valuable opportunity and reported behavioral and clinical practice changes in applying its content to PEoLC. They shared information with colleagues who had not attended the education program; engaged in discussions with supervisors, nurses, and care workers

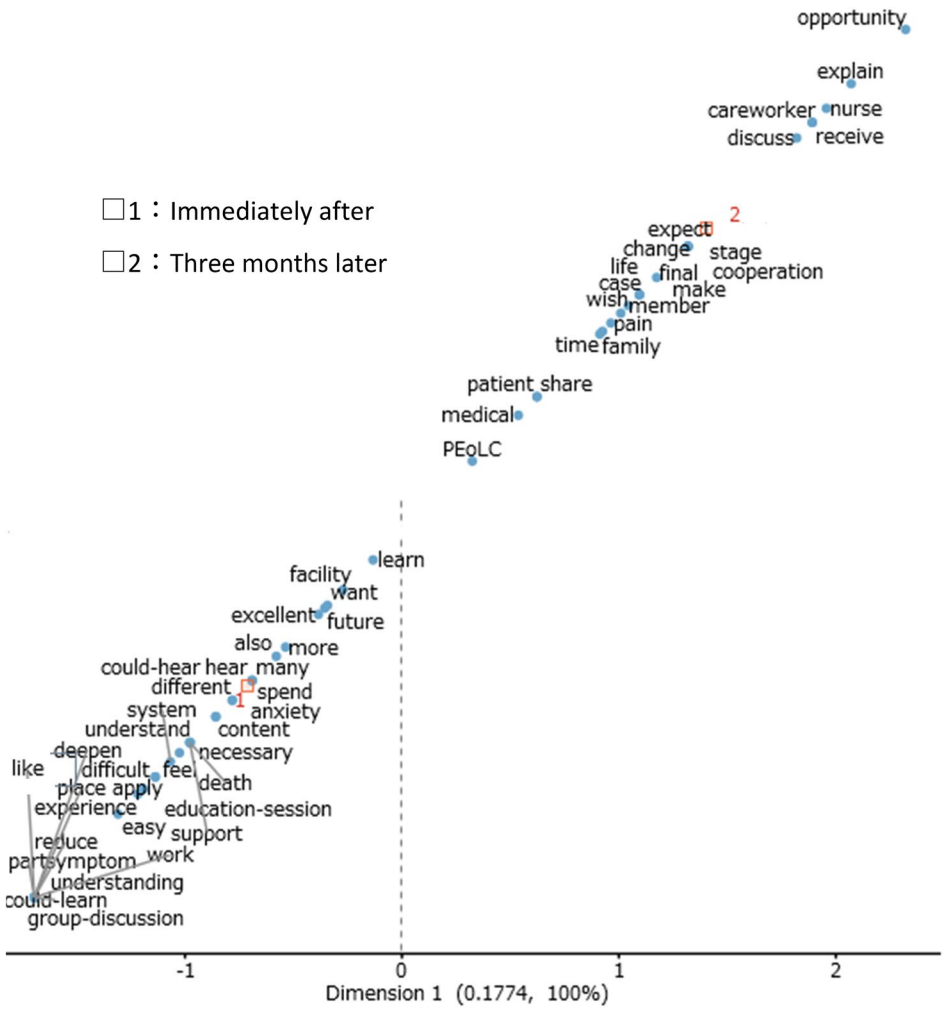

FIGURE 3 | Correspondence analysis comparing participants' feedback immediately after and 3 months after the palliative and end-of-life care education program.

about medical cooperation in PEoLC; and became more attentive to patient conditions within their facilities. Participants also described explaining PEoLC to families, engaging in deeper reflection on PEoLC concepts, and spending more time with patients and their families as part of their evolving caregiving approach.

4.4 | Integrated Findings

Qualitative data from the FGD conducted as part of the education program revealed that PEoLC requires knowledge, skills, and an environment conducive to its successful implementation, particularly when navigating uncertainty related to caregiving roles and role boundaries. The quantitative findings indicate that the percentage of correct responses regarding participant knowledge remained significantly higher 3 months after than before the intervention. Similarly, 3 months after the intervention, confidence and motivation in PEoLC showed the most significant increase, while difficulties in providing PEoLC decreased the most. Integrating these results, the qualitative data explain the reduction in difficulties and increase in confidence. During the 3 months following the intervention, participants shared the knowledge and information they had gained through the education program and began discussing PEoLC and cooperating with patients, families, and staff, illustrating a shift toward transdisciplinary collaborative practice. Furthermore, the quantitative increase in the job satisfaction subscale directly reflected these new actions after intervention.

Feedback collected 3 months post-intervention confirmed that participants had undertaken concrete actions, including disseminating knowledge, initiating PEoLC meetings, and negotiating with supervisors for system implementation, demonstrating how they actively addressed the distribution of responsibility and competency delimitation within the community.

5 | Discussion

5.1 | Effects on Knowledge, Confidence, and Motivation, and Difficulties in PEoLC

The findings suggest that the PEoLC education program may have contributed to enhancing participants' knowledge, confidence, and motivation while reducing difficulties in providing PEoLC. Knowledge acquisition peaked immediately after the intervention, and 3 months later, correct response rates remained

significantly higher than before the intervention, suggesting sustained retention within this group. Similarly, confidence and motivation increased, while difficulties decreased, potentially implying that participants applied the knowledge gained to practice. Behavioral changes, such as providing care within their capacity, appear to have reinforced confidence and motivation while alleviating challenges.

Lack of formal education in PEoLC was first identified ~20 years ago, and subsequent studies have reported that education improves knowledge, skills, and confidence (Dahlin et al. 2016; Li et al. 2021; Van den Block et al. 2020). However, in nursing homes, staff education alone does not necessarily improve patient comfort during the final week of life (Van den Block et al. 2020). Our findings similarly highlight this challenge; however, the observed improvements and behavioral changes suggest that the program has potential practical value in equipping staff to deliver PEoLC more competently. Qualitative data illustrate the processes through which reductions in difficulties became possible, including knowledge sharing, regular discussions, and collaboration. Participants learned to navigate inherent tensions related to role boundaries, competency delimitation, and the distribution of responsibility. Learning to navigate these boundaries enabled them to practice with greater confidence.

5.2 | Implications for Job Satisfaction

The program did not significantly increase overall job satisfaction, likely because PEoLC education does not address extrinsic factors such as workload, salary, or social recognition. Nevertheless, participants who "reconsidered and recognized PEoLC" and "made new efforts toward PEoLC" tended to report higher satisfaction. This suggests that the education program may have strengthened participants' commitment to PEoLC and addressed unmet educational needs. Job satisfaction is known to be shaped by professional pride and relationships with patients, families, and colleagues (Head et al. 2019). In this study, subscales related to competence, such as "personal growth" and "sense of accomplishment," improved after the education program, aligning with the concept of professional pride.

Quantitative findings indicated improvements in participants' ratings of relationships with colleagues, patients' families, and other professionals, while qualitative findings revealed enhanced collaboration and engagement. These results suggest that PEoLC in a multidisciplinary setting may foster improved professional relationships, which in turn could contribute to job satisfaction. The FGDs created opportunities for peer learning, with participants exchanging PEoLC initiatives and system development strategies. These exchanges encouraged immediate actions, including sharing knowledge, organizing PEoLC meetings, and collaborating with supervisors. Although broader factors such as workload, salary, and social recognition remained unchanged, the program, nonetheless, improved several job satisfaction subscales and highlighted the potential importance of education programs that directly enhance daily caregiving practices.

5.3 | Strengths, Limitations, and Future Research Directions

A key strength of this education program was its focus on improving PEoLC in community settings by targeting nursing and caregiving professionals across different organizational and readiness levels. The interdisciplinary nature of the education program may have contributed to enhanced teamwork, with participants reporting increased communication following the program. Although participants came from a variety of backgrounds with different knowledge bases, they were all engaged in looking after people at the end of life. The program's content was largely applicable to participants' daily practice and could be implemented immediately. Additionally, the use of FGDs encouraged participants to translate learning into collaborative action within their institutions. Furthermore, the scientific contribution of this study extends beyond local program evaluation by providing practical insights into community-based care frameworks (Byock et al. 2001) by demonstrating the application of transdisciplinary collaborative practice in resource-limited settings. Although international models, such as the "compassionate communities" approach highlight the importance of engaging broader community members in end-of-life care (Patel et al. 2023), practical implementation and consistent evaluation remain challenging (Dumont et al. 2022). Our findings address this gap by demonstrating that empowering non-nurse care workers to actively assess and recognize patients' conditions is an essential step toward achieving collaborative practice. Although strict professional role division is specific to the Japanese context, overcoming these boundaries through joint education represents a highly transferable approach. Thus, this study provides a scalable model for sustaining high-quality PEoLC in community settings globally.

However, this study has several limitations. First, the small sample size and the fact that the research was conducted only in one area of Japan may affect the statistical power and limit the generalizability of the findings. Second, the lack of a control group compromises internal validity and precludes definitive conclusions about the intervention's outcomes at any given point. Additionally, the reliance on self-reported data may introduce bias. Finally, because the instrument used in this study was originally developed for oncology settings, its content validity in non-oncology long-term care (LTC) and dementia care settings may be limited.

Future work aims to develop a multi-session, stepwise training program to enhance participants' capabilities and evaluate its effectiveness using a controlled design. Additionally, we recommend conducting validation work to establish the instrument's appropriateness and reliability specifically for staff in these non-oncology contexts. Furthermore, research should also focus on establishing community-based PEoLC systems that actively involve local communities (Seckin et al. 2025). Such systems should incorporate evaluations of long-term effects; development of objective methods for measuring capabilities; and assessments of outcomes from the perspectives of staff, patients, families, and community residents.

6 | Conclusion

Within the scope of this study, this education program appeared to enhance participants' knowledge, confidence, and motivation while reducing difficulties in PEoLC provision. These initial findings suggest the possibility of strengthening relationships with other professionals, patients, and families, and may contribute to improved job satisfaction. Further research with larger samples and controlled designs is needed to validate these results.

7 | Relevance for Clinical Practice

Addressing issues related to "knowledge and skills" and "creating the environment" is crucial for improving PEoLC. The focus group discussions served as a platform for peer learning, inspiring participants to adapt strategies within their institutions while strengthening knowledge retention, confidence, and motivation. Skills developed through the program, such as communication and negotiation, have the potential to facilitate future institutional discussions on palliative and end-of-life care and to strengthen clinical practice (Bin Sheeha et al. 2020).

These findings indicate that the education program had a positive impact on participants' clinical practice. Improvements were also observed across multiple job satisfaction subscales, suggesting that extending the evaluation period and fostering workplace reforms to sustain behavioral and practice changes could further enhance job satisfaction and advance PEoLC implementation.

Author Contributions

Chizuru Nagata: conceptualization, methodology, software, data curation, investigation, validation, formal analysis, funding acquisition, visualization, project administration, resources, writing – original draft. **Aiko Tanaka:** methodology, data curation, investigation, validation, formal analysis, supervision, writing – review and editing.

Acknowledgments

The authors wish to thank the staff members of the community-based care facilities for their participation in this study. Special thanks are also due to Asako Kiyonaga and Kayo Matsumoto for their collaboration and support in organizing and conducting the education program workshops. The authors are also deeply grateful to Professor Teresa Stone, Professor Kyoko Murakami, and Ms. Junko Maeda for their generous support and invaluable guidance throughout the course of this research.

Funding

This work was supported by the JSPS KAKENHI Grant Number JP21K10996.

Consent

All participants provided written informed consent prior to their participation.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

References

Aoki, M., S. Yamamoto, A. Takao, S. Tamura, Y. Kizawa, and H. Arao. 2025. "Identifying Physicians' Needs in Community-Based Palliative Care Consultation for Cancer Patients in Palliative Care Specialist-Deficient Settings: A Qualitative Study." *Japanese Journal of Clinical Oncology* 55, no. 2: 131–139. https://doi.org/10.1093/jjco/hyae157.

Bin Sheeha, B., A. Williams, D. S. Johnson, M. Granat, and R. Jones. 2020. "Patients' Experiences and Satisfaction at One Year Following Primary Total Knee Arthroplasty: A Focus-Group Discussion." *Musculoskeletal Care* 18, no. 4: 434–449. https://doi.org/10.1002/msc.1478.

Brighton, L. J., L. E. Selman, K. Bristowe, B. Edwards, J. Koffman, and C. J. Evans. 2019. "Emotional Labour in Palliative and End-Of-Life Care Communication: A Qualitative Study With Generalist Palliative Care Providers." *Patient Education and Counseling* 102, no. 3: 494–502. https://doi.org/10.1016/j.pec.2018.10.013.

Byock, I., K. Norris, J. R. Curtis, and D. L. Patrick. 2001. "Improving End-Of-Life Experience and Care in the Community: A Conceptual Framework." *Journal of Pain and Symptom Management* 22, no. 3: 759–772. https://doi.org/10.1016/S0885-3924(01)00332-3.

Cabinet Office, Government of Japan. 2019. *Annual Report on the Ageing Society*. Cabinet Office. https://www8.cao.go.jp/kourei/whitepaper/w-2019/html/zenbun/s1_3_1_4.html.

Creswell, J. W., and V. L. Plano Clark. 2017. *Designing and Conducting Mixed Methods Research*. 3rd ed. Sage Publications.

Cross, S. H., B. G. Kaufman, D. H. Taylor Jr., A. H. Kamal, and H. J. Warraich. 2020. "Trends and Factors Associated With Place of Death for Individuals With Dementia in the United States." *Journal of the American Geriatrics Society* 68, no. 2: 250–255. https://doi.org/10.1111/jgs.16200.

Dahlin, C., P. J. Coyne, and J. B. Cassel. 2016. "The Advanced Practice Registered Nurses Palliative Care Externship: A Model for Primary Palliative Care Education." *Journal of Palliative Medicine* 19, no. 7: 753–759. https://doi.org/10.1089/jpm.2015.0491.

Driessen, A., E. Borgstrom, and S. Cohn. 2021. "Placing Death and Dying: Making Place at the End of Life." *Social Science and Medicine* 291: 113974. https://doi.org/10.1016/j.socscimed.2021.113974.

Dumont, K., I. Marcoux, É. Warren, et al. 2022. "How Compassionate Communities Are Implemented and Evaluated in Practice: A Scoping Review." *BMC Palliative Care* 21: 131. https://doi.org/10.1186/s12904-022-01021-3.

Eguchi, K., A. Sato, K. Hino, R. Okano, and I. Sumida. 2014. "Development of a Job Satisfaction Scale for Nurses." [In Japanese.] *Hiroshima University Management Research* 15: 65–76.

Femdal, I., and M. Solbjør. 2018. "Equality and Differences: Group Interaction in Mixed Focus Groups of Users and Professionals Discussing Power." *Society, Health and Vulnerability* 9, no. 1: 1447193. https://doi.org/10.1080/20021518.2018.1447193.

Gundumogula, M. 2020. "Importance of Focus Groups in Qualitative Research." *International Journal of Humanities and Social Science* 8, no. 11: 299–302. https://doi.org/10.24940/theijhss/2020/v8/i11/HS2011-082.

Gupta, E., and P. Patel. 2024. "Palliative Care in Dementia." *Annals of Palliative Medicine* 13, no. 4: 791–807. https://doi.org/10.21037/apm-23-503.

Head, B., A. Middleton, and C. Zeigler. 2019. "Work Satisfaction Among Hospice and Palliative Nurses." *Journal of Hospice and Palliative Nursing* 21, no. 5: E1–E11. https://doi.org/10.1097/NJH.0000000000000562.

Higashibata, T., J. Hamano, H. Nagaoka, et al. 2023. "Work Environmental Factors Associated With Compassion Satisfaction and End-of-Life Care Quality Among Nurses in General Wards, Palliative Care Units, and Home Care Settings: A Cross-Sectional Survey." *International Journal of Nursing Studies* 143: 104521. https://doi.org/10.1016/j.ijnurstu.2023.104521.

Higuchi, K. 2014. *Quantitative Text Analysis for Social Researchers: A Contribution to Content Analysis*. Nakanishiya Publishing.

Hirono, M. 2018. "Stress and Job Satisfaction of Nursing Home Care Staff: Qualitative Research Focusing on the Perspective of Sense of Coherence." [In Japanese.] *Bulletin of Koriyama Women's University* 54: 223–238.

Iida, K., A. Ryan, F. Hasson, S. Payne, and S. McIlfatrick. 2021. "Palliative and End-of-Life Educational Interventions for Staff Working in Long-Term Care Facilities: An Integrative Review of the Literature." *International Journal of Older People Nursing* 16, no. 1: e12347. https://doi.org/10.1111/opn.12347.

Jones, C., J. Fraser, and S. Randall. 2018. "The Evaluation of a Home-Based Paediatric Nursing Service: Concept and Design Development Using the Kirkpatrick Model." *Journal of Research in Nursing* 23, no. 6: 492–501. https://doi.org/10.1177/1744987118786019.

Kim, Y., and D. H. Kim. 2024. "Nurses' Experience of End-Of-Life Care for Patients With COVID-19: A Descriptive Phenomenology Study." *Nursing & Health Sciences* 26, no. 2: e13124. https://doi.org/10.1111/nhs.13124.

Kirkpatrick, D. L., and J. D. Kirkpatrick. 2005. *Evaluating Training Programs: The Four Levels*. 3rd ed. Berrett-Koehler.

Li, W. W., J. Chhabra, and S. Singh. 2021. "Palliative Care Education and Its Effectiveness: A Systematic Review." *Public Health* 194: 96–108. https://doi.org/10.1016/j.puhe.2021.02.033.

Ministry of Health, Labour and Welfare. 2022. "Vital Statistics." https://www.mhlw.go.jp/toukei/saikin/hw/jinkou/kakutei22/index.html.

Ministry of Health, Labour and Welfare. 2023a. "Projected Prevalence and Population Estimates of Older Adults With Dementia and Mild Cognitive Impairment (MCI) in Japan." https://www.mhlw.go.jp/content/001279920.pdf.

Ministry of Health, Labour and Welfare. 2023b. "Survey on Awareness of Medical Care and Support at the End of Life." https://www.mhlw.go.jp/toukei/list/saisyuiryo_a.html.

Morgan, D. L., and A. Nica. 2020. "Iterative Thematic Inquiry: A New Method for Analyzing Qualitative Data." *International Journal of Qualitative Methods* 19: 1–11. https://doi.org/10.1177/1609406920955118.

Murakami, N., K. Tanabe, T. Morita, et al. 2018. "Impact of a Six-Year Project to Enhance the Awareness of Community-Based Palliative Care on the Place of Death." *Journal of Palliative Medicine* 21, no. 10: 1494–1498.

Nagata, C., I. Kitamura, K. Matsumoto, and A. Kiyonaga. 2020. "End-of-Life Care in Community-Based Services at Nursing Multifunctional Small Group Homes: Supporting Aging in Place." [In Japanese.] *Yamaguchi Medical Journal* 69, no. 4: 169–181. https://doi.org/10.2342/ymj.69.169.

Nagata, C., M. Tsutsumi, A. Kiyonaga, and H. Nogaki. 2021. "Evaluation of a Training Program for Community-Based End-of-Life Care of Older People Toward Aging in Place: A Mixed Methods Study." *Nurse Education in Practice* 54: 103091. https://doi.org/10.1016/j.nepr.2021.103091.

Nakanishi, M., S. M. Pereira, L. Van den Block, et al. 2024. "Future Policy and Research for Advance Care Planning in Dementia: Consensus Recommendations From an International Delphi Panel of the European Association for Palliative Care." *Lancet Healthy Longevity* 5, no. 5: e370–e378. https://doi.org/10.1016/S2666-7568(24)00043-6.

Nishio, M., and H. Kimura. 2013. "Sense of Satisfaction Entertained by Nurses in Terminal Care." [In Japanese.] *Journal of the Japanese Association of Rural Medicine* 61, no. 6: 890–903.

Pakkonen, M., M. Stolt, A. Charalambous, and R. Suhonen. 2021. "Continuing Education Interventions About Person-Centered Care Targeted for Nurses in Older People Long-Term Care: A Systematic Review." *BMC Nursing* 20, no. 1: 67. https://doi.org/10.1186/s12912-021-00585-4.

Patel, M., G. L. Hundt, and A. Slowther. 2023. "End-Of-Life Care at Home as a Therapeutic Landscape Within a Compassionate Communities Approach." *Progress Palliative Care* 31, no. 6: 366–371. https://doi.org/10.1080/09699260.2023.2256176.

Sansó, N., L. Galiana, A. Oliver, A. Pascual, S. Sinclair, and E. Benito. 2015. "Palliative Care Professionals' Inner Life: Exploring the Relationships Among Awareness, Self-Care, and Compassion Satisfaction and Fatigue, Burnout, and Coping With Death." *Journal of Pain and Symptom Management* 50, no. 2: 200–207. https://doi.org/10.1016/j.jpainsymman.2015.02.013.

Seckin, M., R. Tiwana, D. Fry, and C. Bailey. 2025. "Key Themes and Approaches in Palliative and End-of-Life Care Education for the General Public: A Systematic Review." *BMC Palliative Care* 24: 219. https://doi.org/10.1186/s12904-025-01852-w.

Shimizu, M., M. Nishimura, Y. Ishii, M. Kuramochi, N. Kakuta, and M. Miyashita. 2016. "Development and Validation of Scales for Attitudes, Self-Reported Practices, Difficulties and Knowledge Among Home Care Nurses Providing Palliative Care." *European Journal of Oncology Nursing* 22: 8–22. https://doi.org/10.1016/j.ejon.2016.02.009.

Spacey, A., J. Scammell, M. Board, and S. Porter. 2020. "Systematic Critical Realist Review of Interventions Designed to Improve End-of-Life Care in Care Homes." *Nursing & Health Sciences* 22, no. 2: 343–354. https://doi.org/10.1111/nhs.12665.

Statistics Bureau. 2023. "Annual Report of Population Estimates" Ministry of Internal Affairs and Communications. https://www.stat.go.jp/data/jinsui/pdf/202311.pdf.

Tsuneto, S. 2013. "Past, Present, and Future of Palliative Care in Japan." *Japanese Journal of Clinical Oncology* 43, no. 1: 17–21. https://doi.org/10.1093/jjco/hys188.

Van den Block, L., E. Honinx, L. Pivodic, et al. 2020. "Evaluation of a Palliative Care Program for Nursing Homes in 7 Countries: The PACE Cluster-Randomized Clinical Trial." *JAMA Internal Medicine* 180, no. 2: 233–242. https://doi.org/10.1001/jamainternmed.2019.5349.

World Health Organization. 2020. "Palliative Care: Key Facts." https://www.who.int/news-room/fact-sheets/detail/palliative-care.

Worldwide Hospice Palliative Care Alliance. 2020. *Global Atlas of Palliative Care*. 2nd ed. Worldwide Hospice Palliative Care Alliance and World Health Organization. https://www.thewpca.org/resources/global-atlas-on-end-of-life-care.

Wulandari, B. T., and E. Rochmawati. 2025. "The Lived Experience of Nurses in Conserving the Dignity of Patients With Life-Limiting Illnesses." *Nursing & Health Sciences* 27, no. 1: e70031. https://doi.org/10.1111/nhs.70031.

Appendix A

Elements Needed for PEoLC in Care Facilities (Excerpts)

Some of these are statements, for example.

Theme	Code	Examples
Knowledge and skills	Observation and judgment	Judging that the end-of-life period is approaching by observing the food textures and food intake
		Care workers can detect changes in the patients
		Determining when professionals other than physicians should communicate future prospects to family members
	Acquisition and application of knowledge and skills	Providing PEoLC after watching a video about dying symptoms
		Sharing information with staff about the PEoLC practices learned in the videos
	Understanding the process of natural death	IV infusion no longer readily chosen through collaboration with PEoLC professionals
		Explaining and responding to family members who wish to receive intravenous fluids if they are unable to eat
		The manual facilitates understanding of PEoLC symptoms
	Communication	The distress of the patient is not alleviated due to the lack of understanding of pain with doctor
		Explain to the families about reduction in food intake and the risk of aspiration
		Explain to the family that treatment is pointless and causes more suffering at the end of life
		Education about the process of dying for families having difficulty understanding
	Pain relief practice	Pain relief practiced together by nurses and care workers, checking the effectiveness of the treatment on the individual
	Grief care for family members and care workers	Importance of sharing with family members and care workers
		Handling cases in which family members regret the place chosen for PEoLC
	Understanding the significance of PEoLC in care facilities	Natural PEoLC without facial expressions showing pain, even without IV or oxygen
		Most families prefer natural PEoLC without medical intervention
		PEoLC can be carried out peacefully with the family
		The patient/family chose the care facility instead of a hospital
		PEoLC is not special but an extension of life
		PEoLC is about helping people in the last stages of life to live as normally as possible

Theme	Code	Examples
Creating the environment	Addressing the emotional needs of care workers	Discussion of conditions and concerns about achieving PEoLC
		Care workers concerns about PEoLC conditions and prospects
		Expressing fear of a patient dying on a night shift
		Team member encourages anxious employees to accept themselves and face their last days
		Administrator provides support to reduce anxiety for care worker with limited experience in PEoLC
	Educational support for PEoLC practices	Conduct staff training on PEoLC and attitudes toward death
		Participate in training to understand end-of-life characteristics and care
		Physical changes at the end of life shared at shift report and regular meetings
		Real-time descriptions of the characteristics of end-of-life physical changes
	Maintenance of manuals and consent forms for the practice of PEoLC	Create committees, guidelines, and documents to implement PEoLC practices
		Creation of a manual for dealing with end-of-life care
		Creation and use of a brochure to standardize explanations to families
		Create a booklet on PEoLC that can be easily used in the facility (using the end-of-life notes published by the government)
		Present PEoLC and medical treatment that can be provided at the facility using the PEoLC booklet
	Connecting with the medical profession	Availability to access medical support at any time
		Presence of medical professionals for PEoLC
		Care workers can discuss concerns with nurses and physicians
		Working with a physician who understands PEoLC allows the patients to face death with confidence
	Collaboration and healthcare systems	Respond in conjunction with the primary care physician, even without a full-time nurse or physician on staff
		Establish a system that allows to contact a nurse 24 h a day, 365 days a year to report symptoms and unusual circumstances, even when a full-time nurse is not on staff
		Increase collaboration with visiting nurses and day-shift nurses to provide nighttime medical care
		Establish a system of cooperation for PEoLC with physicians, pharmacists, dieticians, rehabilitation specialists, nurses
	A system that care worker involvement in PEoLC	Care worker-led PEoLC in collaboration with nurses
		Establish appropriate timing for reporting the situation to medical staff and management
		Establish a support system for PEoLC with pharmacists, dieticians and rehabilitation specialists
		Trained nurses carefully instruct care workers how to perform sputum aspiration
	Appropriate environment in the facilities	Creating a culture that respects the wishes of patients and families
		A home-like environment where family members are welcome at any time
		Facing PEoLC while talking with family members in their daily lives
		Being able to support the family to spend precious time with the patient