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Palliative care practices and their relationship to training : A cross-sectional study of community-oriented physicians

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Abstract

Objectives : This study aimed to investigate the training methods family physicians (FPs) use to enhance their professional development in palliative care. We also determined the relationship between these methods and palliative care practice.

Methods : A questionnaire survey was administered to 557 FPs. Palliative care practices were measured using the palliative care self-reported practices scale (PCPS ; range 1-5), and associations among the eight indicators of FP palliative care training were considered. Quantile regression analysis was used for the analysis.

Results : Valid responses were received from 307 FPs : 99.4% of the FPs provided palliative care and home visits, and 92.8% received palliative care training. The PCPS score was higher in participants who reported having received palliative care training (adjusted coefficient, 0.4 [95% CI, 0.12-0.68] ; P=0.004). The palliative care training method was found to be significantly associated with the PCPS score “Self-study through literature” (adjusted coefficient 0.18 [95% CI, 0.01-0.34] ; P=0.03) and “Reflection on the practices” (adjusted coefficient 0.24 [95% CI, 0.08-0.4] ; P=0.004).

Conclusions : FPs actively provided palliative care in their communities and used various palliative care training methods for professional development. “Reflection on the practices” and “Self-study through literature” were important elements of community-based palliative care practice.

Keywords : palliative care training, palliative care practice, community-oriented palliative care, family physician, primary palliative care

Introduction

There is a lack of palliative care provision in the Japanese community. This can be verified by the fact that only 24% of cancer patients who died in Japan between April 2009 and May 2010 used specialized palliative care services, and most services were provided only to hospitalized patients¹⁾. Consequently, a basic policy regarding improving the social environment by enhancing cancer care and support was introduced in 2018. This policy calls for the es-

tablishment of a community support system in close collaboration with local and national governments, medical care institutions, schools, and private organizations to compensate for the lack of palliative care service provision in the community. This policy has been termed “The Future Direction of the 3rd-term Comprehensive 10-year Cancer Control Strategy.”²⁾

Community healthcare professionals need to acquire palliative care knowledge, skills, attitudes, and behaviors. Although palliative care education is being developed and delivered internationally,

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there are indications that patients are inappropriately cared for by physicians with inadequate training³. In Japan, palliative care education for physicians has been promoted as a matter of policy. The Cancer Control Act⁴ of 2007 promotes the early discovery of cancer, including the distribution of cancer treatment and research. It is part of “the Basic Plan to Promote Cancer Control Programs”⁵ and includes goals such as “Conduct basic training on palliative care for all doctors and promotion of cancer registration.” In 2008, “the Palliative Care Emphasis Program on Symptom Management and Assessment for Continuous Medical Education (PEACE)” was launched nationwide to provide basic palliative care training for physicians involved in cancer treatment. PEACE has been credited with improving physicians’ knowledge and palliative care practice and difficulties with palliative care in designated cancer hospitals^{6,7}. However, these are mainly for physicians working in hospitals and not for community healthcare professionals.

Community palliative care training is in its developmental stages. “The Outreach Palliative Care Trial of the Integrated Regional Model (OPTIM)” was conducted as a multiple-intervention study in four regions of Japan from 2008 to 2010. The study reported improvements in the local physicians’ knowledge of palliative care and their perceptions of difficulties⁸⁻¹⁰. However, it is not clear which training methods will improve the ability of individual community healthcare professionals to practice community palliative care. It is important to identify how community healthcare professionals apply their knowledge to practice and the training methods that influence practice to achieve high-quality palliative care delivery in the community.

Family physicians (FPs) are expected to be one of the providers of community palliative care, even though they are not physicians specializing in palliative care. FPs are primary health care (PHC)¹² professionals, and Internationally, community-oriented palliative care is referred to as primary palliative care and is provided according to PHC principles¹³⁻¹⁵. Murray suggested that with adequate training, resources, and professional support, FPs can provide end-of-life care for most patients¹³. A previous study of FPs in Taiwan found that 18.8% had experience with palliative care, and approximately 40% were engaged in home visits^{16,17}. A study of 52 Belgian FPs found that almost all had a receptive attitude toward palliative care; however, they were uncertain about their role in decision-making and negotiation, suggesting a lack of knowledge regarding

palliative medicine¹⁸. In a survey of 516 FPs in the UK, respondents felt that FPs play an important role in palliative care, indicating a need for training and professional development to enhance their palliative care knowledge, skills, and attitudes¹⁹. In Europe, FPs are trained to provide palliative care during the early stages of a disease^{20,21}.

FPs contribute to community palliative care but lack long-term professional training in this area. It is unclear what training methods help them acquire community palliative care capacity. This study investigated the training methods used by certified FPs to enhance their professional development in palliative care and to determine the relationship between these methods and palliative care practice. The results will contribute to the development of training methods for physicians from diverse disciplines, as well as nurses and other community healthcare professionals, enabling them to acquire the necessary competencies required for community palliative care.

Materials and methods

Design

This cross-sectional study used mailed questionnaires to collect data. The primary endpoint was the association between certified FPs’ palliative care training and palliative care practices. It was unclear what training methods the FPs had incorporated to enhance their professional development in palliative care. In addition to a systematic educational program, it was necessary to extract the methods used by the FPs individually. Therefore, a conceptual framework was created to develop this questionnaire. It related palliative care practices to FPs’ training experiences and methods and clarified the role of other factors (Figure 1). The questionnaire was modified based on a pre-test administered to 19 FPs and a small group discussion involving palliative care physicians and coresearchers.

Palliative care practice, as an outcome measure, was based on the palliative care self-reported practices scale (PCPS). The PCPS developed by Nakazawa *et al.*²² is a self-assessment scale used to assess palliative care practice for healthcare professionals. It quantifies recommended practices in palliative care and the degree of adherence to them, which indicates an awareness of palliative care practices. Its validity and reliability were confirmed in a development study and it has been used in previous surveys^{6,7,23}. The PCPS was developed

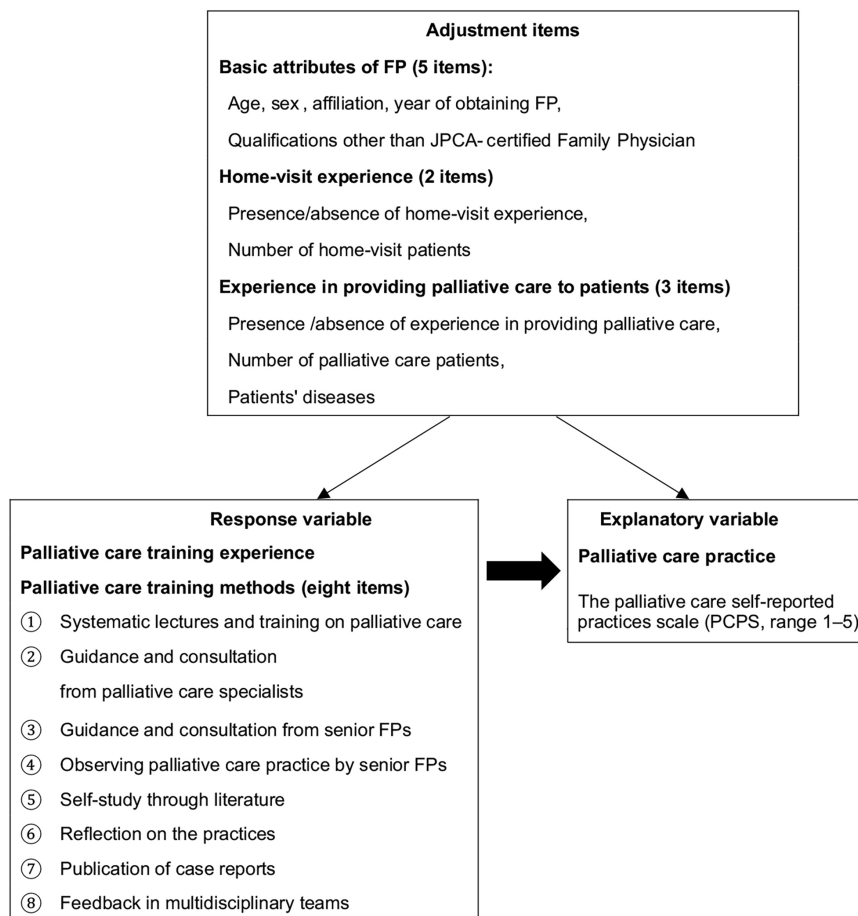


Fig. 1. A conceptual framework

to apply to a hospital setting offering palliative care for cancer patients, but it has also been used in the OPTIM Study⁸⁾ to assess community-oriented palliative care.

Participants and data collection

Questionnaires were sent to 557 Japanese Primary Care Association (JPCA) certified FPs registered with JPCA between January and March 2017. JPCA has an accreditation system for specialty training programs (JPCA-certified FPs) that has certified FPs since 2009. These FPs are not palliative care specialists but can comprehensively treat patients. They work in focus areas including community comprehensive care and palliative/end-of-life care, and case reports must be submitted. As of February 2023, there are 1,126 JPCA-certified FPs in Japan²⁴⁾. The mailing was conducted by a commissioning organization. The mail detailed the purpose of the study and the preservation of anonymity. Consent to participate was obtained by returning questionnaires. Ethics approval was obtained from the Ethics Review Com-

mittee of Fukushima Medical University (No. 2928) before the survey was distributed.

Questionnaire

The questionnaire consisted of the PCPS, training methods related to palliative care, and basic attributes and practice experience of FPs.

The PCPS consists of 18 items that reflect the five aspects of pain, dyspnea, delirium, dying-phase care, and communication (Figure 2). They are rated on a 5-point scale, with scores assigned in the following order: “always,” “usually,” “sometimes,” “not often,” and “no.”

Training in palliative care (one item) and training methods for palliative care (eight items) consisted of two options: “yes” and “no.” If the respondents had training in palliative care, they were asked to select “yes,” otherwise “no” for the following eight items: (1) Systematic lectures and training in palliative care (a few hours, a few days, 7 days to less than 1 month, more than 1 month); (2) Guidance and consultation from palliative care specialists; (3) Guidance and consultation from senior

Pain
I evaluate the effectiveness of rescue doses.
I understand the situation of the patient experiencing pain.
To evaluate pain, I ask the patient directly regarding pain intensity or use the pain intensity scale when the patient cannot reply.
Dyspnea
To evaluate dyspnea, I ask the patient directly about dyspnea intensity or use the dyspnea scale when the patient cannot reply.
I understand the situation of the patient experiencing dyspnea.
I help the patient become comfortable to alleviate dyspnea.
Delirium
I help patient's orientation with a clock and calendar to prevent and improve delirium.
I evaluate discomfort from deteriorating delirium (e.g., urination, defecation, pain, anxiety).
I inquire about the family's concerns about delirium.
Dying-phase care
I routinely inquire about family's concerns in the dying phase.
I evaluate physical discomfort regularly in the dying phase.
I evaluate the appropriateness of care given in the dying phase (e.g., positioning, suctioning, physical, restriction, blood tests, measurement of urine, infections).
Communication
I confirm understanding of conditions by eliciting questions from the patient and family.
I talk with the patient and family in a quiet and private place.
I use open-ended questions for the patient and family.
Patient-and family-centered care
I try to find out what is important to the patient and family.
I try to understand the wishes of the patient and family.
I try to understand the suffering of the patient and family.

Nakazawa *et al.* (2010)

Fig. 2. The palliative care self-reported practices scale (PCPS)

FPs ; (4) Observing palliative care practice by senior FPs ; (5) Self-study through literature ; (6) Reflection on the practices (Reflecting intentionally on the case study) ; (7) Publication of case reports ; and (8) Feedback in multidisciplinary teams.

Basic attributes of FPs were collected (five items) : age, sex, affiliation (selected from hospital, clinic, or other), year of FP certification, and qualifications other than JPCA-certified FPs. Home-visit experience (two items) was evaluated based on the presence or absence of home-visit experience and the number of home-visit patients. Participants could choose either "yes" or "no" for the experience of home-visit treatment ; if they answered "yes," they indicated the number of patients treated in the past year using the options "less than 10," "10 to 50," or "50 or more." Experience of providing palliative care to patients (three items) included the presence or absence of experience of providing palliative

care, number of patients, and patients' diseases. Options for the number of patients to whom palliative care was provided in the past year included "less than 10," "10 to 50," or "50 or more." For patients' diseases, respondents answered either "yes" or "no" to multiple diseases (cancer, dementia/frailty, neurological incurable disease, heart disease, cerebrovascular disease, pulmonary disease, kidney disease, liver disease, orthopedic disease, collagen disease) experienced in the past year.

Data analysis

Descriptive statistics for all items were obtained, followed by a Shapiro-Wilk normality test for numerical data. After testing the normality of the data and confirming that they were non-normally distributed, a univariate analysis was conducted on the association between the median PCPS score and each item. The Spearman rank-sum test was used

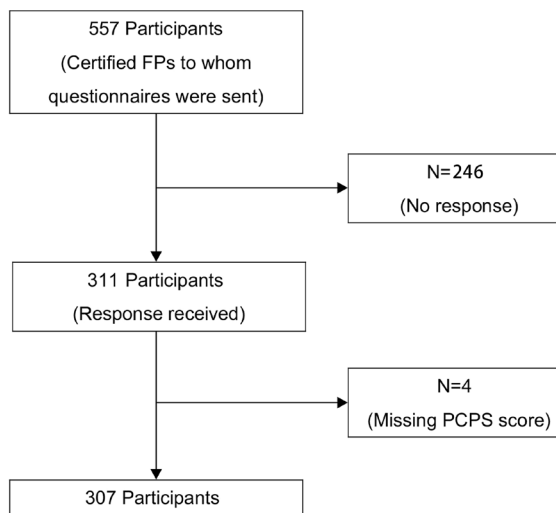


Fig. 3. Participant Flow Chart

for continuous variables, the Mann-Whitney U test was used for binary variables, and the Kruskal-Wallis test was used for variables with three or more groups, corrected using the Bonferroni method.

Quantile regression analysis (median) was performed with palliative care training as the explanatory variable and PCPS as the response variable. Model 1 shows the relationship between the eight training items and PCPS. Model 2 shows the results of the analysis with the addition of other factors. For patient diseases, owing to a large number of items, they were categorized as cancer and non-cancer and were conducted using bivariate variables. Patients' diseases were categorized as either cancer or non-cancer and used as two variables. Regression analysis was performed for "yes" results for training experience. Data analysis was performed using statistical software (Stata15 SE) with a significance level of 5%.

Results

Characteristics of participants

Of the survey forms sent out, 311 were completed (55.8% response rate). After consulting a statistical expert, participants with missing PCPS score data were excluded (Figure 3); the participants' characteristics are presented in Table 1. The mean age of the FPs was 38.2 years (SD \pm 5.8), and they had been family medicine specialists for 5.1 years (SD \pm 3.7). There was an approximate 50/50 split in the affiliations between hospitals and clinics. A total of 99.4% of the FPs had experience providing home visits and palliative care, and 92.8%

had received palliative care training. The number of patients (in the past year) for whom FPs had provided palliative care was less than 10 for 42.8% of FPs, between 10 and 50 for 44.1%, and more than 50 for 13.2%.

Comparison of PCPS scores

The median PCPS scores for all participants were 4.3 (min 1, max 5), and each PCPS median score was as follows: for Delirium, 3.7 (min 1, max 5); Dyspnea, 4.0 (min 1, max 5); Pain, 4.3 (min 1, max 5); Dying-phase care, 4.3 (min 1, max 5); Patient-and family-centered care, 4.4 (min 1, max 5); and Communication, 4.4 (min 1, max 5). The comparison results for each item are shown in Table 2, which shows the PCPS scores of the "Yes" respondents, the participants who answered "No," and the p-values resulting from these comparisons. The significant difference in PCPS scores was "Affiliation," with clinics scoring higher than hospitals. For "Number of home visit patients" and "Number of providing palliative care patients," an increase in the number of patients treated was associated with a higher PCPS score. For patients' diseases for which palliative care had been provided, all disease types except for dementia and frailty showed significant differences, with higher scores overall. For patient disease, whether the clinician had experience with that disease tended to be associated with higher scores. The median PCPS score for FPs who responded "Yes" to palliative care training was 4.2 and 3.8 for those who responded "No," a significant difference. Similarly, there were significant differences in all training items with and without training. The highest PCPS score was for "Self-study through literature."

Palliative care training methods for palliative care practice

The results of the quantile regression analysis (median) of the association between PCPS and palliative care training experience are shown in Table 3. FPs with palliative care training had a significantly higher PCPS score (adjusted coefficient 0.4 [95% CI, 0.12-0.68]; $P=0.004$). Table 4 shows the association between the eight palliative care training items and PCPS. In Model 1, which examined the association between PCPS and eight training methods of palliative care, "Reflection on the practices" (adjusted coefficient 0.24 [95% CI, 0.08-0.4]; $P=0.004$) was significant. In Model 2 after adjustment, "Self-study through literature" (adjusted coefficient 0.18 [95% CI, 0.01-0.34]; $P=0.03$) and "Re-

flection on the practices" (adjusted coefficient 0.24 [95% CI, 0.08-0.4]; $P=0.004$) were significant. To account for influences other than training effects, the analysis was conducted according to the conceptual model (Figure 1). Significant differences in other factors are shown in the footnotes of Tables 3 and 4.

Discussion

Palliative care delivery by FPs in Japan

A high percentage of FPs (99.4%) reported that they had experienced home visits and palliative

Table 1. Characteristics of participants

		N=307	
		mean (median) \pm SD or No (%) ¹	
Age		38.2	(37.0) \pm 5.8
Number of years since becoming a JPCA-certified Family Physician		5.1	(4) \pm 3.7
Sex	(male)	216	(70.4)
	(female)	90	(29.3)
Affiliation	Hospitals	153	(50.0)
	Clinic	144	(47.0)
	Other	6	(2.0)
Qualifications other than JPCA-certified family physician (yes)		276	(89.9)
Home-visit experience (yes)		305	(99.4)
Number of home visit patients (in the previous year)	Less than 10	95	(31.0)
	More than 10 but less than 50	121	(39.4)
	More than 50	89	(29.0)
Experience providing palliative care to patients (yes)		305	(99.4)
Number of providing palliative care patients (in the previous year)	Less than 10	130	(42.4)
	More than 10 but less than 50	134	(43.7)
	More than 50	40	(13.0)
	Cancer	283	(92.2)
	Non-cancer	264	(86.0)
Patients' diseases (yes)	Dementia/frailty	227	(73.9)
	Pulmonary disease	138	(45.0)
	Heart disease	122	(39.7)
	Cerebrovascular disease	101	(32.9)
	Neurological intractable disease	92	(30.0)
	Kidney disease	70	(22.8)
	Liver disease	49	(16.0)
	Orthopedic disease	24	(7.8)
	Collagen disease	20	(6.5)
Training in palliative care	(yes)	285	(92.8)
	(no)	22	(7.2)
	Systematic lectures and training on palliative care	267	(87.0)
	Period		
	a few hours	39	(12.7)
	a few days	136	(44.3)
	7 days to less than 1 month	35	(11.4)
	1 month or more	57	(21.4)
Methods (yes)	Guidance and consultation from palliative care specialists	158	(51.5)
	Guidance and consultation from senior FPs	209	(68.1)
	Observing palliative care practice by senior FPs	133	(43.3)
	Self-study through literature	212	(69.1)
	Reflection on the practices	131	(42.7)
	Publication of case reports	54	(17.3)
	Feedback in multidisciplinary teams	135	(44.0)

¹ Continuous variables are shown as mean (median) \pm SD, categorical variables as No (%).

care. This is a high value compared with the results of a survey in Taiwan²⁵⁻²⁷. In addition, 92.8% of FPs responded “yes” to having palliative care training and

their PCPS scores tended to be high (Table 2). Studies in Denmark and Norway reported that home visits by GPs were associated with home

Table 2. Each item relation to the PCPS score

		N=307	
		rho or median (min, max) ¹	p-value
Age		$\rho=0.01$	0.83
Number of years since becoming a JPCA-certified Family Physician		$\rho=0.03$	0.63
Sex	(male)	4.2 (1, 5)	0.64
	(female)	4.3 (2.8, 5)	
Affiliation	Hospitals	4.1 (1, 5)	<0.001
	Clinic	4.4 (2.8, 5)	
	Other	3.9 (2.9, 5)	
Qualifications other than JPCA-certified family physician (yes)		4.2 (1, 5)	0.6
Home-visit experience (yes)		4.2 (1, 5)	
Number of home visit patients (in the previous year)	Less than 10	3.9 (1, 5)	<0.001
	More than 10 but less than 50	4.2 (2.7, 5)	
	More than 50	4.6 (3.3, 5)	
Experience providing palliative care to patients (yes)		4.3 (1, 5)	
Number of providing palliative care patients (in the previous year)	Less than 10	4.0 (1, 5)	<0.001
	More than 10 but less than 50	4.3 (2.8, 5)	
	More than 50	4.4 (3.4, 5)	
	Cancer	4.3 (1.6, 5)	<0.005
	Non-cancer	4.3 (1, 5)	<0.05
Patients' diseases (yes)	Dementia/frailty	4.3 (1, 5)	0.4
	Pulmonary disease	4.4 (1, 5)	<0.05
	Heart disease	4.4 (1, 5)	<0.001
	Cerebrovascular disease	4.4 (2.7, 5)	<0.001
	Neurological intractable disease	4.5 (2.8, 5)	<0.001
	Kidney disease	4.5 (2.8, 4.9)	<0.05
	Liver disease	4.4 (3.3, 4.9)	<0.05
	Orthopedic disease	4.6 (3.5, 4.9)	<0.05
	Collagen disease	4.7 (3.8, 4.9)	<0.05
Training in palliative care	(yes)	4.2 (1, 5)	<0.05
	(no)	3.8 (1, 5)	
Systematic lectures and training on palliative care		4.3 (1, 5)	<0.05
Period	a few hours	4.2 (2.8, 4.9)	<0.001
	a few days	4.0 (1, 5)	
	7 days to less than 1 month	4.4 (3.2, 5)	
	1 month or more	4.4 (3.5, 5)	
Methods (yes)	Guidance and consultation from palliative care specialists	4.4 (2.8, 5)	<0.001
	Guidance and consultation from senior FPs	4.3 (2.7, 5)	<0.001
	Observing palliative care practice by senior FPs	4.3 (1, 5)	<0.05
	Self-study through literature	4.8 (2.8, 5)	<0.001
	Reflection on the practices	4.4 (3.1, 5)	<0.001
	Publication of case reports	4.5 (3, 5)	<0.001
	Feedback in multidisciplinary teams	4.4 (3.1, 5)	<0.001

¹Comparison with PCPS Score: Binary variables were subjected to the Mann-Whitney U test, continuous variables to Spearman's rank-sum test, and variables with three or more groups to the Kruskal-Wallis test followed by Bonferroni correction. Categorical variables represent median values and continuous variables represent Spearman's rho.

Table 3. Relationship between PCPS and palliative care training

	Crude coefficient	(95% CI)	p-value	Adjusted ² coefficient	(95% CI)	p-value
Palliative care training experience ¹	0.5	(0.17 to 0.83)	0.003	0.4	(0.12 to 0.68)	0.004

¹The results of a quantile regression analysis (median) of “Yes” versus “No” training experience. ²Adjustment items: age, gender, affiliation (hospital, clinic, other) ***, the average number of years since obtaining JPCA-certified family physician qualification, qualifications other than JPCA-certified family physician, number of home-visit patients, number of palliative patients**, patient’s disease (cancer, non-cancer) ***P<0.001 **P<0.01

Table 4. Relationship between PCPS and palliative care training methods

Palliative care training methods ¹	Adjusted coefficient	(95% CI)	p-value	Adjusted coefficient	(95% CI)	p-value
	Model 1 ²			Model 2 ³		
Systematic lectures and training on palliative care	0.00	(−0.24 to 0.24)	1.00	−0.03	(−0.22 to 0.15)	0.72
Guidance and consultation from palliative care specialists	0.17	(−0.0 to 0.33)	0.05	0.08	(−0.06 to 0.22)	0.25
Guidance and consultation from senior FPs	0.11	(−0.1 to 0.32)	0.30	0.06	(−0.12 to 0.23)	0.52
Observing palliative care practice by senior FPs	−0.11	(−0.29 to 0.07)	0.22	−0.08	(−0.23 to 0.06)	0.26
Self-study through literature	0.17	(−0.04 to 0.37)	0.1	0.18	(0.01 to 0.34)	0.03
Reflection on the practices	0.28	(0.08 to 0.47)	0.005	0.24	(0.08 to 0.4)	0.004
Publication of case reports	0.06	(−0.17 to 0.28)	0.63	0.15	(−0.04 to 0.34)	0.12
Feedback in multidisciplinary teams	0.11	(−0.09 to 0.31)	0.27	0.07	(−0.10 to 0.23)	0.42

¹Each item presents the results of a quantile regression analysis (median) of “Yes” versus “No” training experience.

²Adjustment items: Palliative care 8 items of training methods. ³Adjustment items: age, gender, affiliation (hospital, clinic, other) *, the average number of years since obtaining JPCA-certified family physician qualification, qualifications other than JPCA-certified family physician, number of home-visit patients**, number of palliative patients, patient’s disease (cancer*, non-cancer). **P<0.01 *P<0.05

deaths and led to an improved quality of palliative care²⁵⁻²⁷. The current study revealed many FPs had experienced some training in palliative care and actively provided palliative care in the community.

Palliative care training methods engaged by FPs

Most FPs engage in palliative care training to enhance their professional development. The most common training method was participation in structured lectures or palliative care (87.0%). Our findings suggest that palliative care practice stabilized during training periods of seven days or longer (Table 2).

Furthermore, the percentage of FPs with more than a few days of training was high (74.3%). PEACE is available for palliative care training for one–two days. In 2015, the PEACE participation rate in a randomly selected sample of physicians (from hospitals and clinics across Japan) was 51%. As of 2017, the rate among physicians involved in cancer care at cancer center hospitals was 82.1%²⁸. About half were working in clinics and taking the PEACE course was not mandated by the Japanese government. Furthermore, it would not be easy for small facilities to receive training that spans several days, given the limited number of physicians avail-

able. While it is unclear whether the training attended by FPs is equivalent to PEACE, the fact that many FPs received more than a few days of palliative care training suggests that they had positive attitudes toward palliative care training.

Nearly 50–68% of FPs participated in self-study through literature and sought guidance and consultation from senior FPs and palliative care specialists. Approximately 40% of FPs observed palliative care practice by senior FPs, feedback from multidisciplinary teams, and reflection on practices. When practicing primary palliative care, FPs and palliative care specialists are encouraged to work together to provide care^{16,29}. In this study, FPs who learned from palliative care specialists, as well as their senior peers, enhanced their professional development in palliative care. Our findings suggest that FPs used diverse methods to enhance their professional development in palliative care.

The relationship between palliative care practice and training

Participants who reported receiving palliative care training had a total PCPS score of 4.2 with an adjusted coefficient of 0.4. Other adjusted coeffi-

cients included “Self-study through literature” at 0.18 and “Reflection on the practices” at 0.24. In the OPTIM study, which involved multiple interventions across the community, the quality of palliative care was enhanced, with physicians achieving a PCPS total score of 3.7 with an effect size of 0.17 after participating in the palliative care program¹⁰. Although direct comparisons are challenging owing to differences in the survey content, the differences in PCPS scores with and without training are considered meaningful.

Among the palliative care training methods, “Reflection on the practices” and “Self-study through literature” were significantly associated with PCPS scores (Table 4). The results support the fact that knowledge is the foundation for palliative care practice, as stated in previous studies³. A distinctive result of this study was that “Reflection on the practices” was implemented as part of palliative care training. This item was answered when FPs were aware of self-reflection as part of their palliative care training. Prior studies have incorporated reflection as an educational component in palliative care practice. A qualitative study in the Netherlands has shown the need for self-reflection among physicians involved in palliative care at home, and the importance of developing reflection training on end-of-life care³⁰.

Reflection has gained a reputation for encouraging the integration between theory and practice within professional education. Training is conducted with the view of being in itself a skill to be mastered^{31,32}. Reflection skills need to be developed in palliative care education in the community. Further research is needed on how FPs perform “Reflect on the practices,” as this may lead to training methods that enhance the practice of palliative care in the community.

One limitation of this study is that it used self-reports of certified FPs, which may deviate from the actual quality of palliative care. In future research, evaluations by patients’ families should also be included. For the evaluation of non-cancer patients (especially those with dementia/frailty), it is desirable to develop a new evaluation scale.

In addition, we only targeted a population of certified FPs. Comparisons with physicians and professionals other than certified FPs who provide palliative care in the community are required. Additionally, the specialist system in Japan has changed since 2018, and the JPCA-certified FPs assessed in this study are not the same as those currently being trained. It is important that standard palliative care

training be incorporated into the JPCA’s specialist training and continuing education programs to provide high-quality primary palliative care training for FPs in Japan. We hope that this new specialty system will foster high-quality FPs in the future.

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Authors contributions : KK was in charge of study conception and design, overall data acquisition and analysis, and writing. SK participated in the study design and made important contributions to the data interpretation and writing. RK provided guidance on the overall research plan and was a crucial intellectual part of this dissertation.

Conflict of interest : The authors declare no conflict of interest for this article.

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References

1. Kizawa Y, Morita T, Hamano J, *et al.* Specialized palliative care services in Japan : a nationwide survey of resources and utilization by patients with cancer. *Am J Hosp Palliat Care*, **30**(6) : 552-555, 2013. doi : 10.1177/1049909112457874
2. Future Direction of the “3rd-term Comprehensive 10-year Cancer Control Strategy.” Available from : https://www.mhlw.go.jp/english/wp/wp-hw4/dl/health_and_medical_services/P72.pdf [Last Accessed : 7/29/2022].
3. Forbes K, Gibbins J. Teaching and training in palliative medicine. In : Cherny NI, Fallon MT, Kaasa S, *et al.*, eds. *Oxford textbook of palliative medicine*. Oxford University Press, Oxford, 146-153, 2015.
4. Overview of the “Cancer Control Act.” 2007. Available from : https://www.mhlw.go.jp/english/wp/wp-hw4/dl/health_and_medical_services/P73.pdf [Last Accessed 7/29/2022].
5. Overview of the Basic Plan to Promote Cancer Control Programs. Available from : https://www.mhlw.go.jp/english/wp/wp-hw4/dl/health_and_medical_services/P74.pdf [Last Accessed : 7/29/2022].
6. Yamamoto R, Kizawa Y, Nakazawa Y, *et al.* Outcome evaluation of the Palliative care Emphasis program on symptom management and Assessment for Continuous Medical Education : nationwide physician education project for primary palliative care in Japan. *J Palliat Med*, **18**(1) : 45-49, 2015. doi : 10.1089/jpm.2014.0122
7. Nakazawa Y, Yamamoto R, Kato M, *et al.* Im-

- proved knowledge of and difficulties in palliative care among physicians during 2008 and 2015 in Japan : association with a nationwide palliative care education program. *Cancer*, **124**(3) : 626-635, 2018. doi : 10.1002/cncr.31071
8. Morita T, Miyashita M, Yamagishi A, *et al.* A region-based palliative care intervention trial using the mixed-method approach : Japan OPTIM study. *BMC Palliat Care*, **11**(2), 2012. doi : 10.1186/1472-684x-11-2
 9. Morita T, Miyashita M, Yamagishi A, *et al.* Effects of a programme of interventions on regional comprehensive palliative care for patients with cancer : a mixed-methods study. *Lancet Oncol*, **14**(7) : 638-646, 2013. doi : 10.1016/s1470-2045(13)70127-x
 10. Kizawa Y, Morita T, Miyashita M, *et al.* Improvements in physicians' knowledge, difficulties, and self-reported practice after a regional palliative care program. *J Pain Symptom Manage*, **50**(2) : 232-240, 2015. doi : 10.1016/j.jpainsymman.2015.02.025
 11. Sato A, Tagami K, *et al.* A Questionnaire Survey of Home Care Nurses' Attitudes, Difficulties, and Self-reported Practices for Palliative Care in a Community without Specialists to Identify Interventional Targets of Palliative Care Outreach. *Palliat Care Res*, **16**(1) : 79-84, 2021.
 12. World Health Organization. Primary health care. Available from : <https://www.who.int/news-room/fact-sheets/detail/primary-health-care> [Last Accessed : 3/10/2022].
 13. Murray SA, Osman H. Primary palliative care : The potential of primary care physicians as providers of palliative care in the community in the Eastern Mediterranean region. *East Mediterr Health J*, **18**(2) : 178-183, 2012.
 14. Murray SA, Boyd K, Sheikh A, *et al.* Developing primary palliative care. *BMJ*, **329**(7474) : 1056-1057, 2004. doi : 10.1136/bmj.329.7474.1056
 15. Murray SA, Boyd K, Sheikh A. Developing primary palliative care : primary palliative care services must be better funded by both day and night. *BMJ*, **330**(7492) : 671, 2005. doi : 10.1136/bmj.330.7492.671-a
 16. Peng JK, Chiu TY, Hu WY, *et al.* What influences the willingness of community physicians to provide palliative care for patients with terminal cancer? Evidence from a nationwide survey. *Jpn J Clin Oncol*, **43**(3) : 278-285, 2013. doi : 10.1093/jco/hys222
 17. Liu WJ, Hu WY, Chiu YF, *et al.* Factors that influence physicians in providing palliative care in rural communities in Taiwan. *Support Care Cancer*, **13**(10) : 781-789, 2005. doi : 10.1007/s00520-005-0778-7
 18. Sercu M, Renterghem VV, Pype P, *et al.* "It is not the fading candle that one expects" : general practitioners' perspectives on life-preserving versus "letting go" decision-making in end-of-life home care. *Scand J Prim Health Care*, **33**(4) : 233-242, 2015. doi : 10.3109/02813432.2015.1118837
 19. Mitchell S, Loew J, Millington-Sanders C, *et al.* Providing end-of-life care in general practice : findings of a national GP questionnaire survey. *Br J Gen Pract*, **66**(650) : e647-e653, 2016. doi : 10.3399/bjgp16X686113
 20. Thoonsen B, Vissers K, Verhagen S, *et al.* Training general practitioners in early identification and anticipatory palliative care planning : a randomized controlled trial. *BMC Fam Pract*, **16**(1) : 126, 2015. doi : 10.1186/s12875-015-0342-6
 21. Murray SA, Firth A, Schneider N, *et al.* Promoting palliative care in the community : production of the primary palliative care toolkit by the European Association of Palliative Care Taskforce in primary palliative care. *Palliat Med*, **29**(2) : 101-111, 2015. doi : 10.1177/0269216314545006
 22. Nakazawa Y, Miyashita M, Morita T, *et al.* The palliative care self-reported practices scale and the palliative care difficulties scale : reliability and validity of two scales evaluating self-reported practices and difficulties experienced in palliative care by health professionals. *J Palliat Med*, **13**(4) : 427-437, 2010. doi : 10.1089/jpm.2009.0289
 23. Nakazawa Y, Kato M, Miyashita M, *et al.* Changes in nurses' knowledge, difficulties, and self-reported practices toward palliative care for cancer patients in Japan : an analysis of two nationwide representative surveys in 2008 and 2015. *J Pain Symptom Manage*, **55**(2) : 402-412, 2018. doi : 10.1016/j.jpainsymman.2017.08.034
 24. Japan Primary Care Association. Number of Medical Specialists. Available from : <https://www.primarycare-japan.com/about.htm> [Last Accessed : 11/20/2023].
 25. Aabom B, Kragstrup J, Vondeling H, *et al.* Population-based study of place of death of patients with cancer : implications for GPs. *Br J Gen Pract*, **55**(518) : 684-689, 2005.
 26. Aabom B, Kragstrup J, Vondeling H, *et al.* Does persistent involvement by the GP improve palliative care at home for end-stage cancer patients? *Palliat Med*, **20**(5) : 507-512, 2006. doi : 10.1191/0269216306pm1169oa
 27. Kjellstadli C, Allore H, Husebo BS, *et al.* General practitioners' provision of end-of-life care and associations with dying at home : a registry-based longitudinal study. *Fam Pract*, **37**(3) : 340-347, 2020. doi : 10.1093/fampra/cmz059
 28. Ministry of Health Law. Document 2 : Revision of Guidelines for Holding Palliative Care Training

- Sessions for Doctors Involved in Cancer Treatment. 2017. Available from : <https://www.mhlw.go.jp/stf/shingi2/0000168733.html> [Last Accessed : 12/15/2020].
29. Pang GS, Qu LM, Wong YY, *et al.* A quantitative framework classifying the palliative care workforce into specialist and generalist components. *J Palliat Med*, **18**(12), 2015, doi : 10.1089/jpm.2015.0017
 30. Verhoeven AA, Schuling J, Maeckelberghe EL. The death of a patient : a model for reflection in GP training. *BMC Fam Pract*, **12**(8), 2011. doi : 10.1186/1471-2296-12-8
 31. Duke S, Appleton J. The use of reflection in a palliative care programme : a quantitative study of the development of reflective skills over an academic year. *J Adv Nurs*, **32**(6) : 1557-1568, 2000. doi : 10.1046/j.1365-2648.2000.01604.x
 32. Cruess SR, Cruess RL, Steinert Y. Role modeling-making the most of a powerful teaching strategy. *BMJ*, **336**(7646) : 718-721, 2008. doi : 10.1136/bmj.39503.757847.be