Table 1
Characteristics of the Surveyed DCCHs in 2010 ($n = 349$)

Hospital Characteristics	Values
Hospital size (total beds of hospital)	
<400 Beds	60 (17.2)
400–599 Beds	135 (38.7)
600–799 Beds	95 (27.2)
≥800 Beds	59 (16.9)
Median	566 (430–700)
Annual number of admitted cancer patients	
<1000 Persons	45 (12.9)
1000–1999 Persons	111 (31.8)
2000–2999 Persons	83 (23.8)
3000–3999 Persons	48 (13.8)
≥4000 Persons	62 (17.8)
Median	2257 (1407–3468)
Number of in-hospital physician	103 (64–177)
Type of DCCH	
National Cancer Center	2 (0.6)
Prefectural DCCH	49 (14.0)
Regional DCCH	298 (85.4)
Type of hospital	
General hospital	250 (71.6)
University hospital	69 (19.8)
Specialized cancer center	30 (8.6)
Palliative care unit in the hospital, yes	62 (17.8)
Palliative care team in the hospital, yes	349 (100.0)
Annual referrals to palliative care team, persons	80 (40–137)
Certification for the additional fee-for-palliative care, yes	83 (23.8)

DCCH = designated cancer care hospital.
Values are expressed as median (interquartile range) or n (%).

was a large hospital with more than 500 beds and 100 in-hospital physicians that admitted more than 2000 cancer patients per year. A majority of DCCHs were regional DCCHs (85.4%) and general hospitals (71.6%). Palliative care units were available in 17.8%. All DCCHs had PCTs because setting up a PCT is one of the certification requirements. The proportion of DCCHs certified for the "additional fee for palliative care" was 23.8%.

Changes in Structure and Processes of Palliative Care Services Over the Three Years

The longitudinal data, arranged according to the seven major domains, are presented in Table 2.

Domain I: Institutional Framework. Declaration of PCT activity (I-3) and clarification of the division (I-5) was sufficient from baseline. Declaration of philosophy and goals of in-hospital (I-1) and regional (I-2) palliative care significantly improved but were not sufficient in 2010. All items in this domain revealed an increasing trend except for the item "meeting between hospital administrator and palliative care director" (I-7).

Domain II: Information to Patient and Family. Information services through Web site and newsletter (II-1), public notice (II-2), and booklet (II-3) were available in most DCCHs. However, provision of library service and Internet access (II-4) was not enough to satisfy. Disclosure of the achievement of palliative care service to the public (II-5) was available in less than one-quarter of DCCHs. All items of this domain showed a significant improvement over the three years.

Domain III: Palliative Care Practice. The proportion of physicians engaging in cancer care and licensed for opioid prescription (III-3) was high throughout the surveys. Essential drugs for palliative care, including opioids (III-4), adjuvant analgesics (III-5), octreotide (III-6), and atypical antipsychotics (III-7), were available in almost all DCCHs. At the start of opioid therapy, pharmacists instructed (III-13) in most DCCHs. Self-management of opioids by the patient (III-14) became common in Japan; however, it was not available in nearly 30% of DCCHs. Radiotherapy for bone metastasis (III-8) could be performed in most DCCHs (95.1% in 2010). However, consultation by a psychiatrist (III-11, 60.7%–64.5%, $P_{\text{trend}} = 0.10$) or interventional pain management by a pain clinician (III-9, 62.1%–61.5%, $P_{\text{trend}} = 0.80$) did not improve over the three years.

Domain IV: Members of PCTs. Placement of a full-time PCT physician (IV-1) increased (27.4%–45.7%, $P_{\text{trend}} < 0.001$) but needed further improvement. Full-time PCT nurses (IV-4) increased significantly and became sufficient over the three years (38.9%–88.0%, $P_{\text{trend}} < 0.001$). At least one pharmacist belonged to the PCT in most DCCHs (IV-6, 93.4%–97.7%, $P_{\text{trend}} = 0.004$). Implementation of the Cancer Control Act might have promoted these trends. In 50%–70% of surveyed DCCHs, various medical experts such as social workers (VI-7), managerial dieticians (VI-8), rehabilitation specialists (VI-9), and clinical

Table 2

Changes in Structure and Processes of Palliative Care Services in the Surveyed DCCHs From 2008 to 2010 ($n = 349$)

	Year				
Questionnaire Items	2008	2009	2010	Change[a]	P_{trend}[b]
I. Institutional framework					
I-1: Official declaration of philosophy and goals of in-hospital palliative care	45.7	55.5	68.0	22.3	<0.001
I-2: Official declaration of philosophy and goals of regional palliative care	27.2	35.5	49.1	21.9	<0.001
I-3: Official declaration of principles of PCT activity	90.0	94.0	96.3	6.3	<0.001
I-4: Written procedure of consultation of PCT	89.7	93.7	97.1	7.4	<0.001
I-5: Clarification of division of palliative care and PCT in the hospital	89.9	93.1	98.3	8.4	<0.001
I-6: Documentation of annual plan for palliative care service	41.6	48.1	54.6	13.0	<0.001
I-7: Meeting between hospital administrator and palliative care director	73.6	74.4	76.5	2.9	0.29
II. Information to patient and family					
II-1: Information via Web site and newsletter	54.3	69.8	89.4	35.1	<0.001
II-2: Public notice for palliative care counseling counter in the hospital	59.1	85.4	95.4	36.3	<0.001
II-3: Distribution of information booklet	55.3	76.4	87.6	32.3	<0.001
II-4: Provision of in-hospital library service and Internet access	34.6	49.6	55.2	20.6	<0.001
II-5: Disclosure of achievements of palliative care service to the public	11.3	19.5	24.6	13.3	<0.001
II-6: Disclosure of achievements of palliative care service to hospital staff	55.9	62.7	67.6	11.7	<0.001
II-7: Consultation for palliative care at the patient counseling counter	81.9	90.1	94.8	12.9	<0.001
III. Practice of palliative care					
III-1: Adoption of a standard pain rating scale in the hospital	78.2	87.9	90.8	12.6	<0.001
III-2: Preparing a palliative care manual in the hospital	58.2	65.6	71.3	13.1	<0.001
III-3: Possessing a license to prescribe opioids for all in-hospital physicians engaging in cancer care	92.2	92.5	91.5	−0.7	0.76
III-4: Availability of essential opioid formulations	92.8	98.0	98.6	5.8	<0.001
III-5: Availability of adjuvant analgesics (anticonvulsants, antidepressants, and ketamine)	94.0	96.0	98.0	4.0	0.003
III-6: Availability of octreotide	96.8	99.7	99.7	2.9	0.01
III-7: Availability of atypical antipsychotics	98.8	99.4	99.7	0.9	0.18
III-8: Radiotherapy for bone metastases	91.6	93.7	95.1	3.5	0.01
III-9: Interventional pain management (nerve block) by a pain clinician	62.1	63.2	61.5	−0.6	0.80
III-10: Placement of at least one psychiatrist in the hospital	63.2	66.5	69.3	6.1	0.003
III-11: Provision of face-to-face consultation for psychological symptoms by a psychiatrist	60.7	63.0	64.5	3.8	0.10
III-12: Nutritional support by nutrition support team	82.4	87.1	88.5	6.1	0.01
III-13: Instruction on the new use of opioid by a pharmacist	88.1	93.7	95.9	7.8	<0.001
III-14: Self-management of opioid by a patient	64.2	65.5	72.0	7.8	0.01
III-15: Placement of at least one social worker responsible for palliative care	68.7	71.1	74.6	5.9	0.03
IV. Members of PCTs					
IV-1: Placement of one full-time PCT physician	27.4	36.7	45.7	18.3	<0.001
IV-2: Placement of at least one physician in PCT completed train-the-trainer program of palliative care	N/A	78.5	96.6	N/A	<0.001
IV-3: Placement of at least one psychiatrist in PCT completed train-the-trainer program of psycho-oncology	N/A	44.7	60.2	N/A	<0.001
IV-4: Placement of one full-time PCT nurse	38.9	56.8	88.0	49.1	<0.001

(*Continued*)

Table 2
Continued

Questionnaire Items	Year			Change[a]	P_{trend}[b]
	2008	2009	2010		
IV-5: Placement of at least one certified nurse in PCT	57.0	70.5	80.2	23.2	<0.001
IV-6: Placement of at least one pharmacist in PCT	93.4	96.0	97.7	4.3	0.004
IV-7: Placement of at least one social worker in PCT	72.5	76.2	78.2	5.7	0.02
IV-8: Placement of at least one managerial dietician in PCT	54.0	57.3	60.6	6.6	0.01
IV-9: Placement of at least one rehabilitation specialist in PCT	42.9	49.3	52.7	9.8	<0.001
IV-10: Rehabilitation specialist completed training course of cancer rehabilitation	37.3	43.1	52.2	14.9	<0.001
IV-11: Placement of at least one clinical psychologist in PCT	49.9	55.5	58.9	9.0	0.001
V. Activities of PCTs					
V-1: Annual referral to the PCT greater than 50 patients	53.9	65.0	76.4	22.5	<0.001
V-2: Direct medical care by PCT at least once a week and by any member of PCT on day shift	75.6	82.8	89.7	14.1	<0.001
V-3: Direct medical care by any member of PCT at least 3 times a week	55.9	61.0	75.6	19.7	<0.001
V-4: Consultation contents of physical and psychological symptoms except cancer pain greater than 20%	66.0	73.3	82.8	16.8	<0.001
V-5: Ward round and conference by PCT at least once a week	78.8	89.7	96.3	17.5	<0.001
V-6: Recording of consultation service by PCT	93.7	98.0	98.0	4.3	0.01
V-7: Management of patient database by PCT	88.8	92.0	96.0	7.2	<0.001
VI. Regional medical cooperation					
VI-1: Discharge meetings with clinics and home-visit nursing stations in the region	48.7	56.2	65.6	16.9	<0.001
VI-2: Consultation service for clinics and home-visit nursing stations in the region	79.8	85.4	93.1	13.3	<0.001
VI-3: Community outreach by PCT member	9.0	9.5	12.6	3.6	0.05
VI-4: Outpatient clinic open to the region	27.0	39.5	58.9	31.9	<0.001
VI-5: Annual meeting with clinics and home-visit nursing stations in the region	47.7	51.3	53.2	5.5	0.10
VII. Education					
VII-1: Financial support of palliative care training for staff	65.0	72.0	78.1	13.1	<0.001
VII-2: Annual budget to conduct a workshop	56.8	71.5	95.1	38.3	<0.001
VII-3: Educational activities for in-hospital physicians with PEACE	N/A	35.3	78.2	N/A	<0.001
VII-4: Educational activities for in-hospital physicians without PEACE	N/A	57.5	58.0	N/A	0.86
VII-5: Educational activities for regional physicians with PEACE	N/A	33.4	63.9	N/A	<0.001
VII-6: Educational activities for regional physicians without PEACE	N/A	42.9	45.0	N/A	0.54
VII-7: Provision of on-the-job training for regional physicians	7.2	8.1	6.9	−0.3	0.94
VII-8: Educational activities for in-hospital nurses	94.2	90.2	91.4	−2.8	0.17
VII-9: Educational activities for regional nurses	68.1	66.1	71.1	3.0	0.36
VII-10: Provision of on-the-job training for regional nurses	15.6	19.9	19.5	3.9	0.09
VII-11: Training course of communication skills in the hospital	19.5	25.9	39.8	20.3	<0.001
VII-12: Training course of cancer rehabilitation in the hospital	14.7	19.6	21.9	7.2	0.004
VII-13: Dispatch of instructors for palliative care training courses in the region	72.2	81.0	90.2	18.0	<0.001

DCCH = designated cancer care hospital; PCTs = palliative care teams; N/A = not available; PEACE = Palliative care Emphasis program on symptom management and Assessment for Continuous medical Education.
Values are expressed in %.
[a] Changes between the 2008 and 2010 surveys.
[b] P_{trends} were calculated using general estimating equation models adjusted for the year of the survey.

psychologists (VI-11) were working on PCTs. All items of this domain indicated an incremental trend.

Domain V: Activities of PCTs. The median number of annual referrals to PCTs increased significantly, from 60 (28–120) to 80 (40–137) over the three years ($P < 0.001$). More than three-quarters of the surveyed DCCHs had a PCT with greater than 50 referrals a year (V-1). Most PCTs provided direct medical care (V-2) and convened a conference and ward rounds (V-5) at least once a week. An increasing trend was seen in all items of this domain.

Domain VI: Regional Medical Cooperation. Many Japanese DCCHs collaborated with regional medical institutions through discharge meetings (VI-1, 65.6% in 2010) and through the consultation service (VI-2, 93.1% in 2010). Community outreach programs were not available in most DCCHs (VI-3, 9.0%–12.6%, $P_{\text{trend}} = 0.05$). Outpatient palliative care clinics needed a further increase (VI-4, 27.0%–58.9%, $P_{\text{trend}} < 0.001$).

Domain VII: Education. Basic palliative care education programs for in-hospital (VII-3) and regional physicians (VII-5) were being developed using the PEACE program across the country. Education for nurses (VII-8, 9) was highly available beginning with the 2008 survey. On-the-job training for regional health care providers (VII-7, 10) was not available in most DCCHs. In-hospital palliative care education programs related to communication skills (VII-11) and cancer rehabilitation (VII-12) were insufficiently provided. Most DCCHs prepared an annual budget for education and training activities in 2010 (VII-2, 56.8%–95.1%, $P_{\text{trend}} < 0.001$).

Comparison Among the Major Domains

All seven domains showed an increasing trend over the three years. Among them, domains III (Members of PCTs), VI (Regional Medical Cooperation), and VII (Education) showed lower sufficiency levels than the others (Table 3).

Discussion

Cancer Control Programs have been implemented in DCCHs in Japan. After the formulation of the Cancer Control Act in 2006, palliative care services in these hospitals have improved significantly. Analysis of our surveys revealed 1) institutional framework, such as declaration of philosophy and goals of palliative care, improved substantially; 2) information to patient and family displayed the best advance; 3) the practice of palliative care was high throughout the surveys; 4) full-time PCT physicians and nurses significantly increased, but other medical professionals, except pharmacists, working on PCTs did not increase; 5) the number of referrals to PCTs increased slightly but significantly, whereas PCT activity expanded gradually; 6) regional medical cooperation, including outpatient clinics and community outreach programs, needed further advancement; and 7) basic education for physicians had been introduced nationwide, using PEACE programs; however, education for regional health care providers was not common in Japan. In addition to the implementation of

Table 3

Comparison of the Averaged Sufficiency Levels Among the Seven Domains ($n = 349$)

	Year				
Domains	2008	2009	2010	Change[a]	P[b]
I. Institutional framework	65.6	70.6	77.2	11.6	<0.001
II. Information to patient and family	50.2	64.6	73.6	23.4	<0.001
III. Practice of palliative care	79.4	82.8	84.7	5.3	<0.001
IV. Members of PCTs	55.9	61.9	68.6	12.7	<0.001
V. Activities of PCTs	73.3	80.2	87.8	14.5	<0.001
VI. Regional medical cooperation	42.4	48.4	56.6	14.2	<0.001
VII. Education	47.7	50.9	55.4	7.7	<0.001

PCTs = palliative care teams.
Average values of each domain are expressed in %.
[a] Changes between the 2008 and 2010 surveys.
[b] Calculated using analysis of variance for repeated measurements.

the Cancer Control Act, this three-year survey itself contributed to these improvements by clarifying the concrete actions necessary to develop palliative care services. Structural changes, such as institutional framework and information delivery, were the first to be improved to meet the requirements of the law because they can be set up with relative ease. Staffing PCTs with more specialists, regional medical cooperation, and education are the next challenges. The relative insufficiency in these areas might reflect the additional costs and manpower required compared with preparation of the institutional framework and information services. Among the issues raised by the surveys, the insufficiency of regional medical cooperation was most important because being the hub among regional medical institutions is one of the fundamental roles of DCCHs.

Development and enhancement of palliative care is recognized as an important health care issue. The American Society of Clinical Oncology has declared that palliative care should be integrated into comprehensive cancer care.[2] The European Association for Palliative Care has placed access to palliative care as a human right.[3] Previous reports have identified several subject areas to consider when developing and disseminating palliative care.[4–8] The World Health Organization Public Health Strategy highlighted that appropriate policymaking is the key component to enhance national palliative care services, in addition to drug availability, education, and implementation of palliative care services.[4] The European Association for Palliative Care pointed out five important domains, including policy, access to palliative medications, education, quality measurements, and research.[5] Behmann et al. proposed that integration of generalist and specialist palliative care and strengthening generalist palliative care were the top priorities to improve palliative care.[6,7] Key common issues in the development of palliative care are policymaking, access, coordination of care, and education.[4–8]

Nationwide surveys of the major cancer centers are necessary to describe the current status of national palliative care services. Hui et al. conducted a nationwide mail survey of 101 U.S. cancer centers in 2009.[16] The availability of palliative care service, defined as the presence of at least one palliative care physician, was 92% in National Cancer Institute cancer centers and 74% in non-National Cancer Institute cancer centers. Inpatient PCTs were available in 74% of the centers surveyed. Of them, 80% and 47% of PCTs had full-time physicians and nurses, respectively. Poor reimbursement and limited institutional resources were cited as the major barriers to the enhancement of palliative care services. Japan shares these same issues. Additional strengths of the present study were the fact that it was a complete census and its longitudinal design, which allowed us to assess the effects of policymaking on the development and enhancement of national palliative care services.

We found that essential drugs for palliative care, including opioids, adjuvant analgesics, and others, were accessible across Japan. However, it is known that the total amount of opioid consumption in Japan is much lower than that in other Western countries.[17] An additional study is needed to assess opioid accessibility, opioid consumption, and symptom relief. The number of full-time PCT physicians and nurses increased significantly. Even so, PCT physicians, psychiatrists, and pain clinicians were not available in many DCCHs. This finding may reflect a lack of specialists in this field and poor staff compensation.[18] Absence of a psychiatrist was one of the major barriers to be certified for "additional fee for palliative care." Poor reimbursement and lack of palliative care specialists could become a vicious cycle in many DCCHs. Regional medical cooperation was offered at outpatient clinics or through community outreach programs. Opening an outpatient clinic was one of the certification requirements for DCCHs, and this item increased by 31.9%. Community outreach programs were available in 12.6% of DCCHs. A recent regional intervention study in Japan demonstrated the possibility of educational visits by palliative care specialists to improve palliative care outcomes in the region.[19] Regional medical cooperation may be the focus of future health care challenges. The development of PEACE promoted a significant improvement in basic palliative care education to physicians engaged in providing cancer care. Specific education programs for specialists are necessary.

Several limitations of this study should be noted. First, our results could be biased because we collected recalled information. Second, the outcomes of palliative care services were not assessed. Because the major aim of the study was clarifying the structure and processes of palliative care in Japan, outcome measurement was beyond the scope of this survey. Third, we could not evaluate the effects of the increased availability of palliative care in DCCHs observed in this study on overall medical cost because of lack of data. Finally, this survey indicated changes over a relatively short period of time after the revision of the national cancer program. We plan to replicate the survey in 5–10 years to evaluate the long-term effects of policymaking on palliative care services nationwide.

The present study indicates the future direction of palliative care in Japan. More than 80% of terminally ill cancer patients died in hospitals in Japan in 2011,[20] although as shown in one population-based survey, most Japanese people considered home as the preferred place of death.[21] Concerns about burden on family caregivers, sudden disease exacerbation, availability of home care, and expense are the major barriers to dying at home.[22] Regional cooperation, including community outreach by palliative care specialists of DCCHs, could play the key role in increasing concordance between preferred and actual place of death. Future studies, including measurement of palliative care outcomes such as home death rate, quality of care, and quality of life at the end of life, are warranted. In addition, to develop and disseminate palliative care to non-cancer populations is another indispensable issue in Japan because a recent survey among DCCHs showed that the proportion of non-cancer patients was only 2.5% of the total number of patients referred to PCTs.[23]

In conclusion, this three-year nationwide survey with excellent response rates demonstrated that the formulation of the Cancer Control Act allowed a significant advance in the national palliative care services of Japan. The number of physicians and nurses engaging in palliative care increased substantially; however, our study highlighted the difficulties of improving areas that need a large workforce. More outpatient clinics and outreach programs are needed to use regional medical resources. Although basic education for in-hospital physicians and nurses has developed during the three-year period, education for regional health care providers was insufficient. Regional medical cooperation and palliative care education may be the health care challenge in the next decade of palliative care in Japan.

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One-year Follow-up of an Educational Intervention for Palliative Care Consultation Teams

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Objective: This study explored how an educational intervention affects interdisciplinary palliative care consultation teams.
Methods: A pre-post questionnaire survey conducted before the intervention, as well as immediately, 3, 6 and 12 months later. The outcome measurements were behavior (four domains—17 items) and confidence (one domain—6 items).
Results: Of the 252 workshop participants (63 teams), 248 submitted a pre-intervention response, 240 responded immediately after, 198 after 3 months, 197 after 6 months and 184 after 12 months. The behavior domain score significantly increased from pre- to 12 months post-intervention, as follows: 'regional partnership and consultation availability from medical personnel in region', from 15.0 to 17.8 ($P < 0.001$, effect size = 0.59); 'direct practice or care by member', from 12.8 to 13.4 ($P < 0.001$, effect size = 0.26); 'provision of information to patient and family', from 11.4 to 12.5 ($P < 0.001$, effect size = 0.42). The confidence score for palliative care consultation teams activities significantly increased from 18.5 pre-intervention to 20.2 at 12 months later ($P < 0.001$, effect size = 0.37). By the analysis according to the profession of the team member, the score changes for physicians and psychiatrists were larger than that for nurses and pharmacists.
Conclusions: Participant behavior and confidence scores significantly increased after the educational intervention for the interdisciplinary team. In particular, physicians and psychiatrists showed the largest change. Future studies are needed to confirm the findings.

Key words: palliative care – interdisciplinary team – educational intervention – evaluation – questionnaire – Japan

INTRODUCTION

Palliative care consultation teams (PCTs) were established from the early 1990s in Western countries. The concept of PCTs has widened further in the 20 years hence, with the aim of maximizing symptom palliation, and these teams are playing important roles in the UK, USA, Canada and Australia (1–4). The effectiveness of PCTs has been investigated by systematic review (5), randomized controlled trials (6,7), historical control studies (8–11), audit surveys of symptom severity (12,13), descriptive studies of PCT recommendations (14–16), satisfaction surveys of relevant medical staff (17,18), an examination of changes in patient insight (19) and cost-effectiveness analysis (20).

In Japan, hospital-based PCTs are playing an increasingly important role, with several hospitals routinely reporting PCT activities and effectiveness (21,22). The National Cancer Program strongly supports the dissemination of palliative care (23). Since National Medical Insurance started to cover inpatient palliative care units for terminal cancer patients in 1990, such units have dominated palliative care service. However, more than 90% of cancer deaths occur in hospitals (24), and the adequacy of cancer patient care in these settings has been questioned (25–27). In response to the needs of cancer patients, the National Medical Insurance scheme began to cover palliative care consultation services in 2002. In addition, Designated Cancer Hospitals were required to establish PCTs from 2006. Consequently, the number of PCTs established in Japan rapidly increased following the change in government policy, and the number of Designated Cancer Hospitals reached 351 in 2008 (28). The government released the following statements for establishing a PCT (29): (i) a PCT should include a palliative care physician, psychiatrist, nurse and pharmacist and provide palliative care for cancer patients; (ii) palliative care can be provided at outpatients; (iii) the PCT holds care meetings to discuss patient symptom management at least once a week; (iv) sufficient information is provided to cancer patients; (5) the attending physician and the PCT provide patients with information and education regarding palliative care before discharge, collaborating with their home care doctor and (6) a palliative care network with other hospitals and home care agencies in the same region is established. However, the statement lacked enough detail for the PCT to entirely understand their required roles and activities in palliative care. In a previous study, 30% of Designated Cancer Hospitals in Japan reported that PCT consultation services were unavailable for more than 50% of the business hours on weekdays (30). The issue now is to improve quality and effectiveness of PCT activities.

To improve the activities of PCTs, we implemented educational workshops for an interdisciplinary team with the National Cancer Center for PCTs within Japanese Designated Cancer Hospitals. The effectiveness of interdisciplinary education has been investigated in the USA (31–33). These studies showed that an interdisciplinary educational intervention improves role understanding and strengthens participants' confidence and comfort. To develop a useful educational program, this study evaluated the effectiveness of an educational intervention delivered to a palliative care team, measuring self-perceived changes in behavior, and learner's confidence.

METHODS

DESIGN

This study design was a one-group pre- and post-survey with 1-year follow-up.

PARTICIPANTS AND PROCEDURES

The subjects of the surveys were participants of a PCT workshop that we implemented four times from December 2008 to August 2009. The PCTs voluntarily enrolled in this workshop across the country in response to announcements by prefectural government and on the National Cancer Center homepage. The subjects received the questionnaire and were informed of the survey protocol. Consenting participants replied to the survey anonymously.

The study comprised five surveys (pre-intervention, as well as immediately, 3, 6 and 12 months after the interventions) to examine the time course of measured changes appearing after the educational intervention. The surveys were conducted from December 2008 to September 2010 using the outcome measurements that we developed. We distributed the pre-intervention questionnaire at the workshop, and the other questionnaires were mailed to all participants. Reminders were sent to subjects that had not responded within 1 month.

INTERVENTION

Table 1 outlines the PCT educational program, which aimed to improve the quality of PCT activities. The program was developed based on literature review and expert opinions (five palliative care specialized physicians, five psycho-oncologists, four board-certified pharmacist in Palliative Pharmacy, two certified nurse specialists in Cancer Nursing and four certified nurse specialists in Palliative Care). The educational intervention was run for the interdisciplinary team over 2 days. In this program, we made four members into the unit of the team, with the precondition that four PCT members with different professions participated (palliative care physician, psychiatrist, nurse and pharmacist) to promote the team building and to enhance a cooperative relationship. For the group work, 'experts', as defined above, were placed in each group as facilitator.

QUESTIONNAIRE

We developed novel instruments to quantify the behavior and confidence of workshop participants regarding PCT activities because no such measurement was available.

First, we generated items based on literature reviews and focus group interviews with 12 past workshop participants (three physicians, three psychiatrists, three pharmacists, three nurses). Second, to examine content validity, we adopted a modified Delphi method one-phase measure conducted by 10 PCT 'experts' (four palliative care specialized physicians, one psycho-oncologist, three certified nurse specialists in Palliative Care, one board-certified pharmacist in Palliative Pharmacy and one psychotherapist) (34). More importantly, these PCT 'experts' were not involved in developing the educational program. Third, we did a development phase test of the preliminary items using past workshop participants 179 (response rate 70%). The authors then discussed the items based on the development test results and reduced the number. Finally, we

Table 1. PCT workshop programme

Session	Programme/outline	Method	Time (min)
Day 1			
1	Key note speech	Lecture	15
	Orientation		
2	Palliative care overview	Lecture	45
	Review principles of palliative care and roles of PCT		
3	Ice braking	Group work	15
	Introduction of someone else in a group		
4	Clarifying issues related to consultation activities	Group work	75
	Identify problems and issues that PCTs have in group work by the KJ method (brain storming)		
5	The group work according to the specialty	Group work	120
	Recognize each specialized role and discuss ways to play the role		
Day 2			
6	The review of consultations	Group work and role play	120
	See the trigger video about difficult situations on which to provide consultation for palliative care and discuss how to rectify these situations and presentation through role play		
7	A method to provide palliative care in community	Lecture	75
	How to encourage regional collaboration		
8	The goal setting of the team	Group work	120
	Based on PCT's problems and issues and make some concrete action plan		

PCT, palliative care consultation team.

conducted a validation test of two measurements using past workshop participants 182 (response rate 97%). The reliability and validity of our two measurements were confirmed.

Behavior regarding change in PCT activities

The measurement to quantify participant behavior with respect to PCT activities comprised four domains: discussion of therapeutic measures used by the PCT and recommendation to clients; regional partnerships and consultations available with local medical personnel regarding palliative care; direct practice or care by PCT member; provision of palliative care information in a popular way to patients and their families, with 17 items (Cronbach's alpha coefficients 0.78–0.88, intraclass correlation coefficients 0.73–0.81, goodness of fit index = 0.87, adjusted goodness of fit index = 0.83). This measurement was evaluated by agreement with statements on a Likert-type scale from 1 (never) to 5 (always). A higher score indicated a higher level of behavior.

Confidence about PCT activities

To quantify confidence in PCT activities, our measure comprised six items for the four domains of the behavior measure and the overall team activities (Cronbach's alpha coefficients 0.75, intraclass correlation coefficients 0.86). This measurement was evaluated by agreement with statements on a Likert-type scale from 1 (not confident at all) to 5 (very confident). A higher score indicated a higher level of confidence.

Activity style of PCT member

To evaluate activity style after the educational intervention, we asked the respondents about their working style as a PCT member and the number of patients consulted as PCT member in the past year.

Statistical Analyses

Descriptive statistics were calculated regarding participant characteristics. The time change in behaviors and confidence were analyzed using a generalized estimating equation method, and we calculated the effect size of changes from pre-intervention to 12 months after. The relationships between behaviors and confidence before and after the intervention was estimated by dividing the change in behavior into three groups (behavior total score mean difference between before educational intervention and 1 year later; activities ± 0 = lowest–0, activities+ = 0–4 (median), activities++ = 4–highest), and comparing the confidence score mean difference between before educational intervention and 1 year later: of each group.

Statistical analysis was performed using SAS ver. 9.1. The significance level was set at <0.05 (two-tailed).

The Institutional Review Board of the National Cancer Center approved the ethical and scientific validity of this study.

RESULTS

Of the 252 study participants (across 63 teams), 248 submitted a pre-intervention response, 240 responded immediately after the educational intervention, 198 after 3 months, 197 after 6 months and 184 after 12 months. Table 2 summarized the characteristics of the respondents, of which 54% had <2 years experience in the PCT. There were nine physicians who make palliative care a speciality (18.3%), whereas 32 nurses received the Certified Nurse and Certified Nurse Specialist education about palliative care (65.3%). There were no significant differences between these characteristics at pre–post and follow-up.

Activity Style of PCT Member

The changes over time in the PCT member's activity style are outlined in Table 3. PCT duties as a percentage of the

Table 2. The characteristics of participants ($n = 248$)

	n (%)
Sex	
Male	130 (52)
Female	117 (47)
Age	
20s	12 (5)
30s	105 (42)
40s	92 (37)
50s	34 (14)
≥60	3 (1)
Professions	
Physician	63 (25)
Psychiatrist	60 (24)
Nurse	62 (25)
Pharmacist	63 (25)
Clinical experience/year	
1–4	10 (4)
5–9	47 (19)
10–19	108 (44)
20–29	69 (28)
≥30	10 (4)
Experience of activities in PCT/year	
0	6 (2)
<2	128(52)
2–4	72 (29)
4–6	28 (11)
6–8	9 (4)
>8	1 (0)
Training attendances in past year about palliative care per total time	
0	54 (22)
1–4	106 (43)
5–9	38 (15)
≥10	47 (19)

Table 3. The changes over time of PCT member's activity style

	Percent				
	Pre- intervention ($n = 248$)	After 3 months ($n = 198$)	After 6 months ($n = 197$)	After 12 months ($n = 184$)	P-value[a]
Working style as PCT member					
Full time	22	23	26	28	0.113
Part time	79	77	74	71	
PCT duties/total duties (%)					
0	2	1	2	2	0.003
1–25	50	55	51	44	
26–50	18	16	14	16	
51–75	9	8	8	9	
76–100	19	21	24	27	
The consulted number of patients as PCT member in past 1 year/case					
0	4	1	1	1	0.002
1–9	12	13	10	9	
10–49	40	35	35	34	
50–99	21	21	21	21	
≥100	22	30	31	34	

[a] Generalized estimating equation method.

participant's total duties significantly increased ($P = 0.003$), while 51% or more of the PCT duties ratio varied from 28% at pre-test to 36% after 12 months. The number of patients consulted by the PCT member as a percentage of their total patient consults in the past year also significantly increased ($P = 0.002$), with reports of 100 or more ranging from 22% at pre-test to 34% after 12 months.

Behavior about PCT Activities

Table 4 shows the changes over time in behavior regarding the PCT activities. The domain score of regional partnership and consultation availability from medical personnel in the region significantly increased from 15.0 at before to 17.8 at after 12 months across all professions ($P < 0.001$, effect size = 0.59), while the domain score of direct practice or care by palliative consultation team changed from 12.8 at before to 13.4 at after 12 months across all professions ($P < 0.001$, effect size = 0.3), and the domain score of provision of information in a recognizable way to patient and family about palliative care changed from 11.4 at before to 12.5 at 12 months across all professions ($P < 0.001$, effect size = 0.4). The changes in domain score were larger for physicians and psychiatrists than for nurses and pharmacists.

Confidence about PCT Activities

Table 5 lists the changes over time of confidence in PCT activities. The total score significantly increased from 18.5 at before to 20.2 at after 12 months across all professions ($P < 0.001$, effect size = 0.4). By the type of profession, the changes in the total score of physicians and psychiatrists were larger than those of nurses and pharmacists. In addition, the change in confidence score was bigger when the change of the behavior was also bigger (Fig. 1).

DISCUSSION

Herein, we report a pre–post survey study to evaluate the effects of an educational intervention on behavior and confidence

Table 4. The changes over time in behaviour regarding PCT activities

Domain	Domain score mean[a] (±SD)					
	Pre- intervention ($n = 248$)	After 3 months ($n = 198$)	After 6 months ($n = 197$)	After 12 months ($n = 184$)	Effect size[b]	P-value[c]
Discussion about therapeutic measures in PCT and recommendation to clients (range 6–30)						
Total	24.5 (±3.7)	24.7 (±3.9)	25.4 (±3.5)	25.4 (±3.7)	0.23	0.026
Physicians	25.2 (±3.5)	25.4 (±3.9)	25.8 (±3.3)	26.1 (±2.8)	0.28	0.263
Psychiatrists	24.4 (±4.3)	25.0 (±3.5)	25.7 (±3.8)	25.9 (±3.2)	0.39	0.280
Nurses	24.1 (±3.7)	24.1 (±3.5)	24.7 (±3.6)	24.3 (±4.1)	0.07	0.553
Pharmacists	24.5 (±3.4)	24.3 (±4.5)	25.6 (±3.1)	25.3 (±4.5)	0.20	0.320
Regional partnership and consultation availability from medical personnel in region about palliative care (range 5–25)						
Total	15.0 (±5.2)	16.0 (±4.8)	16.9 (±4.3)	17.8 (±4.0)	0.59	<0.001
Physicians	15.5 (±5.4)	15.6 (±5.5)	16.8 (±4.9)	18.0 (±3.8)	0.53	<0.001
Psychiatrists	14.4 (±4.9)	16.1 (±4.8)	17.2 (±4.0)	19.2 (±3.7)	1.13	<0.001
Nurses	14.4 (±5.5)	16.0 (±4.6)	16.1 (±4.5)	16.0 (±4.2)	0.32	0.046
Pharmacists	15.9 (±4.8)	16.3 (±4.4)	17.8 (±3.7)	18.4 (±3.6)	0.59	<0.001
Direct practice or care by PCT member (range 3–15)						
Total	12.8 (±2.7)	12.8 (±2.8)	13.2 (±2.4)	13.4 (±2.4)	0.26	<0.001
Physicians	12.4 (±3.1)	12.7 (±2.8)	13.2 (±2.5)	13.4 (±2.4)	0.37	<0.001
Psychiatrists	12.7 (±2.8)	13.0 (±2.8)	13.2 (±2.3)	13.4 (±2.3)	0.24	0.441
Nurses	13.1 (±2.6)	13.0 (±3.1)	13.1 (±2.8)	13.6 (±2.3)	0.21	0.887
Pharmacists	12.8 (±2.3)	12.5 (±2.5)	13.3 (±1.9)	13.3 (±2.7)	0.20	0.009
Provision of information in a recognizable way to patient and family about palliative care (range 3–15)						
Total	11.4 (±3.2)	11.8 (±3.0)	12.4 (±2.5)	12.5 (±2.5)	0.42	<0.001
Physicians	11.5 (±3.1)	11.8 (±3.1)	12.2 (±2.4)	12.9 (±2.1)	0.54	0.020
Psychiatrists	10.6 (±3.3)	11.7 (±3.3)	12.7 (±2.3)	13.0 (±2.2)	0.90	<0.001
Nurses	11.3 (±3.5)	11.8 (±3.1)	12.1 (±2.8)	12.0 (±2.9)	0.20	0.536
Pharmacists	11.9 (±2.6)	12.0 (±2.6)	12.6 (±2.4)	12.3 (±2.7)	0.14	0.281

SD, standard deviation.

[a] Each domain score was calculated as the total score of each item from 'never' (1) to 'always' (5).

[b] Change from pre-intervention to 12 months later.

[c] Generalized estimating equation method.

regarding PCT activities over time. The major findings were that participant's behavior and confidence scores both significantly increased after the educational intervention, and particularly among physicians and psychiatrists. Second, the PCT duties ratio to total duties and the consulted number of patients as PCT member in the past year increased over time.

ACTIVITY STYLE OF PCT MEMBER

A previous study associated the presence of a full-time physician with the number of referrals to a PCT (30). However, the findings of this study suggested that the activity of the team increased independently of working style of the PCT members (full time vs. part time). There is a limit to the number of members who can be secured for full-time duties with any given PCT. Therefore, an educational program that improves the quality of consultation services the PCT can provide regardless of time and resource limits is clearly necessary.

BEHAVIOR REGARDING PCT ACTIVITIES

The all-domain score regarding PCT activities in this study also significantly increased after the educational intervention, and this increase was more pronounced among physicians and psychiatrists compared with nurses. This finding could reflect that many nurses in this study already had an advanced education in palliative care gained through their nursing certification specialty, whereas physicians and psychiatrists have insufficient access to education about palliative medicine in Japan.

Table 5. The changes over time in confidence regarding the PCT activities

	Total score mean[a] (±SD) (range 6-30)					Effect size[b]	*P*-value[c]
	Pre- intervention (*n* = 248)	Immediately after (*n* = 240)	After 3 months (*n* = 198)	After 6 months (*n* = 197)	After 12 months (*n* = 184)		
Total	18.5 (±4.2)	18.2 (±4.0)	19.2 (±4.3)	19.8 (±4.7)	20.2 (±4.8)	0.37	<0.001
Physicians	20.0 (±3.9)	19.5 (±4.0)	20.5 (±3.9)	21.5 (±4.3)	22.6 (±4.1)	0.66	<0.001
Psychiatrists	18.3 (±4.1)	18.7 (±3.8)	20.4 (±4.4)	20.6 (±4.1)	20.8 (±4.3)	0.59	0.003
Nurses	17.8 (±4.2)	17.4 (±3.7)	18.4 (±3.9)	18.9 (±4.7)	19.0 (±4.0)	0.28	0.112
Pharmacists	17.8 (±4.4)	17.2 (±4.1)	17.7 (±4.6)	18.2 (±5.1)	18.1 (±5.3)	0.06	0.493

[a] Total score was calculated as the total score of each item from 'not confident at all' (1) to 'very confident' (5).
[b] Change of from pre-intervention to 12 months later.
[c] Generalized estimating equation method.

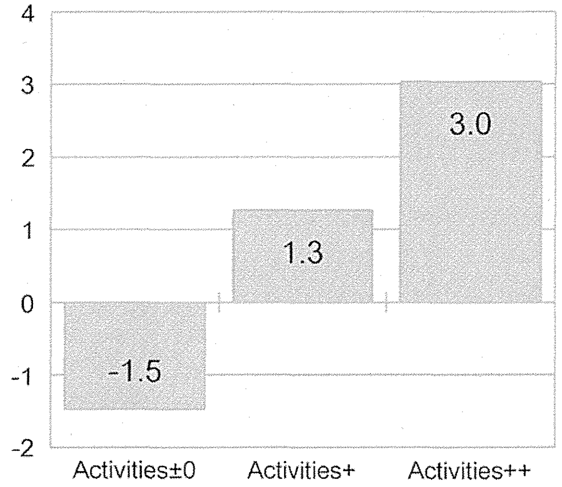

Figure 1. Comparison of confidence score mean difference before intervention and 1 year later by the activities categories. Activity categories: Behavior total score mean difference between before educational intervention and 1 year later: Activities ± 0, Lowest–0, Activities+ =0–4(median), Activities+ + =4–Highest.

This educational intervention was designed to provide interdisciplinary learning for an interdisciplinary team, and this approach has distinct advantages. First, the team members can together explore similarities and differences in roles, skills, knowledge and ideologies. Second, they can begin to recognize the complementary skills and resources of different provisions. They are also placed in a position whereby they can learn to acknowledge parity of esteem for their contributions to the care of patients and their carers. Finally, interdisciplinary education also provides scope for greater open communication by all members within a group (35). These advantages might have influenced the reported effects.

In addition, experts acted as facilitators in this educational intervention. Such an approach can enhance both individual and group learning, through more flexible learning opportunities during the workshop and increased relevance to the participant's different learning needs overall. The close tutoring of participants by facilitators was viewed as a particular strength of this educational intervention.

Confidence Regarding PCT Activities

After the educational intervention, confidence scores increased significantly. A similar increase in confidence after interdisciplinary training was also identified by previous research (32). The participants recognized that increased cooperation within the PCT during the workshop might have influenced this observed increase in confidence, in that PCT members were better equipped to work together to solve clinical problems and support each other following the educational workshop. Relationships among the team members and PCT communication in general were also enhanced through the group work, which could also have increased the participants' confidence in team activities.

This study has several limitations. First, we measured self-reported outcomes. It is hard to judge the effects of educational intervention using only the participants' evaluation. To evaluate the effects of educational intervention correctly, we should independently examine both consultation user outcomes and patient outcomes including the change of clinical symptoms and quality of life, as well as the relationship between improvement in participants' self-reported score and these outcomes. It will be necessary to conduct these surveys in the future. Moreover, the quality of palliative care as a real outcome of the educational intervention care should be evaluated against patient or bereaved family outcomes (36–38). Second, this study could have a potential selection bias of participants that might limit the generalizability of the findings in other populations. On the pre-intervention survey, about half of PCTs played an active role only in a quarter of the work hours. Thus, many PCTs were unfamiliar with how to consult in their hospitals. The natural process of team building or the effects of on-the-job experience for 1 year might have influenced the change in self-reported outcomes. To exclude these factors, it may be valid to conduct a control trial. However, we believe that this is an unlikely possibility and conclude instead the changes were due to not only the team-building outcome, but also the significant changes in other outcomes.

CONCLUSION

The educational intervention would be improved by enhancing the participant's behavior and confidence regarding PCT activities. In particular, physicians and psychiatrists showed the largest change. It will be necessary to confirm the findings in future and to determine an objective outcome measures.

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Conflict of interest statement

None declared.

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APPENDIX

Measurement items of behavior about PCT activities
Discussion about therapeutic measures in PCT and recommendation to clients
We discuss the division of each role with PCT members
We discuss the issues and the policy of PCT with PCT members
When the opinion is divided among PCT members, we discuss until get it
When PCT members do the assessment and the recommendation, we confirm needs and intentions of clients
When PCT members do the recommendations, we aim for what primary team can practice
When we recommend the methods to relieve a symptom, we present some choices
Regional partnership and consultation availability from medical personnel in the region about palliative care
We exchange information about patients on telephone or conference with clinic, home-visit nursing station or hospice in region
We hold a conference with healthcare workers in region to become 'the relations to be able to see of the face'
We hold a workshop or a seminar about palliative care more than once a year for healthcare workers in the region
We provide consultation for healthcare workers in region
Consultation is available during night-time and holiday by on call or surrogation
Direct practice or care by palliative consultation team member
Somebody of PCT members goes the direct rounds on inpatients more than once a week
Somebody of PCT members can do the direct care on inpatients during business hours on weekdays
When consultation is complicated, somebody of PCT members goes the direct care on the patient every day
Provision of information in a recognizable way to patient and family about palliative care
A pamphlet about palliative care is put in an obvious place for outpatients
We inform the patients and the family clearly about accessing the PCT
We inform the patients and the family clearly about the PCT activities by pamphlet, poster and online

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Assessing medical decision making capacity among cancer patients: Preliminary clinical experience of using a competency assessment instrument

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ABSTRACT

Object: This study investigates the usefulness of the Structured Interview for Competency and Incompetency Assessment Testing and Ranking Inventory (SICIATRI) for cancer patients, which is a structured interview that assesses a patient's competency in clinical practice.

Methods: The SICIATRI, originally developed to measure patients' competency to give informed consent, were administered referred cancer patients who needed for assessing medical decision making capacity. The usefulness of the SICIATRI was investigated retrospectively. Recommendation for modification of the SICIATRI for cancer patients if applicable were made by the research team.

Results: Among the 433 cancer patients referred for psychiatric consultation, 12 were administered the SICIATRI and all of the administration were conducted without big problems. All patients were 60 years or older. The most common purpose for competency evaluation was to analyze patients' understanding of the anti-cancer treatment proposed by oncologists, followed by their refusal of the treatment. Half of the patients ($n = 6$) were diagnosed with delirium and three among them were judged as having the most impaired status of a patient's competency. Two patients (17%) were diagnosed with major depression and another two (17%) were mental retardation and each one patient was diagnosed with dementia and past history of alcohol dependence. Among 6 patients without delirium 5 subjects including a dementia patient were judged as fully competent. Total of 5 small potential modifications of the SICIATRI for its use with Japanese cancer patients were recommended.

Significance of results: Our experience suggests that the SICIATRI is a useful instrument for psycho-oncology clinical practice.

KEYWORDS: Cancer, Decision making, Informed consent, Psychiatric co-morbidity

INTRODUCTION

An appropriate decision-making process between patients and physicians is an essential component of all medical practice. However, although the patient's decision-making capacity (competency) should be guaranteed in the informed consent

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process, (Appelbaum, 2007) this ability may not be evaluated in routine practice, and overestimating patients' capacity is considered to be a problem. (Lepping, 2011)

Cancer patients often face several important decision-making issues; for example, the choice of treatments, such as surgery, chemotherapy, radiotherapy, and palliative therapy, which may influence both their survival and quality of life. Some previous studies have reported that many cancer patients are asked to make difficult decisions under distressing circumstances. (Clark, Wray, & Ashton, 2001; Knowles, Liberto, Baker, Ruskin, & Raskin, 1994; Tamburini, Buccheri, Brunelli, & Ferrigno, 2000) In addition, many studies have shown that cancer has a serious psychiatric impact on patients that renders them incapable of making a medical decision. For example, previous studies indicated that more than half of the cancer patients suffer from psychiatric disorders, the most common being adjustment disorders, major depression, and delirium. (Derogatis et al., 1983) (Lawlor et al., 2000; Minagawa, Uchitomi, Yamawaki, & Ishitani, 1996)

Although competency is a legal concept and can only be determined by a judge, psychiatrists are often asked to assess patients' competency in oncology practice. (Akechi et al., 2003) Based on this background, we began using the Structured Interview for Competency and Incompetency Assessment Testing and Ranking Inventory (SICIATRI) (Tomoda et al., 1997), a structured interview that assesses patients' competency, in our psychiatric consultation. Since we have learned some important lessons from our clinical activities, we are reporting our experiences of the usefulness of the SICIATRI for assessing the competency of Japanese cancer patients.

MATERIALS AND METHODS

Structured Interview for Competency and Incompetency Assessment Testing and Ranking Inventory (SICIATRI)

The SICIATRI was originally developed in Japan to measure patients' competency to obtain informed consent. (Tomoda et al., 1997) It mainly focuses on psychiatric patients; however, its validity and reliability for physically ill Japanese patients have also been confirmed. (Tomoda et al., 1997)

The SICIATRI consists of several items: (1) Understands that he/she has a right to decide; (2) Evidences his/her choice; (3) Does not waive responsibility; (4) Understands the expected benefits; (5) Understands the expected risks; (6) Understands the alternative treatments; (7) Understands the risks expected from no treatment; (8) Understands the benefits expected from no treatment; (9) Wants to get better; (10) Psychological determinants do not exist; and (11) Insight. Each part is scored according to the patient's responses, and the patient is finally rated as one of five different levels of competency (Levels 0–4). Level 0 is considered to be the most impaired status of a patient's competency, whereas Level 4 suggests that the patient is fully competent. The interview form and administration methods of the SICIATRI can be downloaded (http://www.institute-of-mental-health.jp/right.html). After the necessary training sessions, medical staff other than psychiatrists can also conduct the interview.

Because our experience demonstrated that a non-negligible number of referred cancer patients should have been evaluated for their competency (Akechi et al., 2003), we began using the SICIATRI in April 2011 in our routine psychiatric consultation when assessment of patients' competency should be needed.

To examine the usefulness of the SICIATRI, we reviewed all psychiatric consultations referred to the Department of Psychiatry and Division of Palliative Care and Psycho-oncology at Nagoya City University Hospital from April 2011 to March 2012. A computerized database was used to identify the cancer patients referred to these divisions. Finally, we identified the referred cancer patients who were administered the SICIATRI, and the relevant data including the detailed reason for consultation and the outcomes of the SICIATRI and neuropsychological tests (if available) were extracted from patients' records. After obtaining these data, the potential problems of administering the SICIATRI to Japanese cancer patients and proposals for its modification were discussed among the trained psycho-oncologists (T.A., T.O., M.U.).

This study was approved by the Institutional Review Board and Ethics Committee of Nagoya City University Graduate School of Medical Sciences, Japan. Since this was a retrospective study using a data set obtained during routine clinical practice, written consent from the patients was not obtained. However, we disclosed information about this study via the hospital web site and stated that patients could refuse to participate in the study, according to the ethical guidelines for epidemiological studies clinical studies developed by the Japanese Ministry of Health, Labour and Welfare (http://www.mhlw.go.jp/general/seido/kousei/i-kenkyu/ekigaku/0504sisin.html).

Several items of personal information have been modified in the following cases to preserve the patients' anonymity.

RESULTS

Patient Demographic and Medical Characteristics

Among the 433 cancer patients referred during the study period, 12 (2.8%) were administered the SICIATRI in several clinical settings and all of the administration were conducted without big problems. Patient characteristics are shown in Table 1. All patients were 60 years or older, and their mean age was 73 (SD = 9).

Purpose of Competency Evaluation and Psychiatric Diagnosis

The most common purpose was to check patients' understanding of the anti-cancer treatment proposed by oncologists (67%), followed by their refusal to undergo the recommended treatment (25%).

Regarding psychiatric diagnosis, six (50%) of the 12 patients were diagnosed with delirium. Two patients (17%) were diagnosed with major depression and another two (17%) were mental retardation. Four patients were administered the Mini-Mental State Examination (MMSE; a score of 23 or less suggests existence of cognitive impairment) to check their cognitive function, and their scores were variable, as shown in Table 1.

Outcome of Competency Evaluation

Regarding levels of competency, three patients (25%) were judged as Level 0 (the most impaired status of a patient's competency), four (33%) as Level 1, and five (42%) as Level 4 (fully competent). Among the six patients diagnosed with delirium, three were judged as Level 0 and three as Level 1. Among the two patients with mild mental retardation, one was judged as Level 1 and one as Level 4. Among the two patients diagnosed with major depression (one in a current episode and the other in remission), both were judged as Level 4 (fully competent). Interestingly, a patient diagnosed with moderate dementia and cognitive impairment (MMSE 13) was judged as Level 4 (fully competent).

Potential Issues Concerning Administration of SICIATRI to Japanese Cancer Patients

Most patients could be easily administered the SICIATRI in actual clinical settings. However, because our discussions yielded some ideas with regard to 5 modifications of the SICIATRI when administered to Japanese cancer patients, we would like to recommend these modifications to the original SICIATRI based on our experiences: (1) Because the item, "Understands that he/she has a right to decide," is self-evident for most cancer patients, it can often be omitted. (2) The item, "Does not waive responsibility"

Table 1. *Characteristics of 12 cases receiving competency assessment interview*

Age	Sex	Cancer	Clinical situation	Psychiatric diagnosis	Test results	Results of SICIATRI
94	female	colorectal	understanding of operation	delirium	–	Level 1
79	male	stomach	understanding of diagnosis and operation	dementia	MMSE 13	Level 4
78	female	bladder	poor adherence to treatment	mental retardation (mild)	MMSE 26	Level 4
77	female	primary unknown	understanding of chemotherapy	delirium	–	Level 0
75	female	pancreas	understanding of operation	major depression (remission)	–	Level 4
73	female	lung	understanding of treatment (chemotherapy or BSC)	major depression	–	Level 4
71	male	lung	understanding of phase III trial of chemotherapy	delirium	–	Level 0
71	male	gall bladder	understanding of chemotherapy	history of alcohol dependence	MMSE 24	Level 4
67	male	lung	refusal of chemotherapy	delirium	–	Level 0
67	male	lung	understanding of radiotherapy	delirium	–	Level 1
62	male	lymphoma	routine assessment before SCT	mental retardation (mild)	MMSE 21	Level 1
61	male	lymphoma	treatment refusal and desire for death	delirium	–	Level 1

MMSE: mini-mental state examination, BSC: best supportive care, SCT: stem cell transplantation

("Do you think that someone else should decide to accept or refuse the treatment [admission, or other procedures against which competency is to be measured] for you?"; "Because you cannot decide for yourself, do you want your doctor or family members to decide for you?"), should often be considered from the Japanese cultural perspective. It has been reported that elderly Japanese people do not always weigh individual autonomy or right during decision making. Our previous study suggested that elderly patients are likely to value the traditional paternalistic attitude of physicians, and not all patients want to be actively involved in decision-making and prefer the physicians' paternalistic approach. (Akechi et al., 2012) Thus, because a patient's waiver does not necessarily imply his/her incompetence in Japanese culture, we should carefully consider it when a patient waives responsibility. (3) Since, in actual clinical practice, physicians sometimes omit explanations of alternative treatments and the benefits expected from no treatment, whether patients were informed of these items by physicians often needs to be checked directly. (4) The item, "Wants to get better," is not understood by many incurable cancer patients. Paraphrases, such as "Wants symptoms to be alleviated," are sometimes useful. (5) Lastly, regarding the item, "Insight," although the manual says "The patient should be assessed as 'complete insight,' if he/she can recall the diagnosis they were told and explain what it was," some names of cancer diagnoses are difficult for them to recall completely (e.g., malignant fibrous histiocytoma and acute promyelocytic leukemia). Since this item essentially tests a patient's recognition of the life-threatening nature of cancer and not the name of the diagnosis, when a patient can state that his/her disease is "cancer" or describe its life-threatening nature, the item is rated as "3" (moderate insight) and not "2" (between no insight and moderate insight).

DISCUSSION

To the best of our knowledge, this is the first report about the clinical utility of a competency assessment tool for cancer patients in Japan. Our experience suggests that the *SICIATRI* is a useful tool for various clinical situations that require evaluation of a cancer patient's competency. Especially, since a patient's competency cannot be judged from a psychiatric diagnosis or psychological test battery (e.g., MMSE), (Akechi et al., 2003; Sessums, Zembrzuska, & Jackson, 2011) specific instruments that focus on decision-making capacity, such as the SICIATRI, are essential for evaluating patients' capacity.

Despite the potential usefulness of the SICIATRI, we have proposed 5 modifications for its use with Japanese cancer patients based on our experience, which are summarized in the result section. Kitamura et al. have compared the components of the SICIATRI to those of the MacArthur Competence Assessment Tool for Clinical Research (MacCAT-T) that is often used for evaluation of patients' capacity in Western countries and suggest that some components of the SICIATRI including "Understands that he/she has a right to decide", "Does not waive responsibility", and "Wants to get better" are not involved in the MacCAT-T although other components are almost same in these two instruments.(Kitamura & Kitamura, 2012) They suggest that these differences are partly caused by culture, especially with regard to individual autonomy. When taken with our findings, our one proposed modification ("Understands that he/she has a right to decide" can be often omitted because this is self-evident for most cancer patients) may reflect the westernization of the Japanese culture while one other proposal (a patient's waiver does not necessarily imply his/her incompetence) can be associated with traditional Japanese culture. Especially from a cross-cultural perspective a paternalistic approach between a patient and physician is still acceptable and even preferred by many Japanese elderly patients, (Akechi et al., 2012; Ruhnke et al., 2000) we should carefully consider a patient's passive decision-making style and not consider his/her waiving responsibility as a lack of competence. This is consistent with our previous findings obtained from the study investigating concepts relevant to a good death among elderly cancer patients. (Akechi et al., 2012) To be more precise, our study has suggested that some elderly patients value the traditional paternalistic attitude of physician, "omakase (leaving the decisions to a medical expert)", and that not all patients want to be actively involved in decision-making. Thus, our proposed modification of the SICIATRI may reflect rapid, but partial change of recent Japanese culture.

The present findings are very limited because our case series is seriously flawed by many methodological weaknesses including many types of bias resulting from systematic and random errors. However, our experience indicates that the SICIATRI is a promising instrument that should be evaluated in further well-designed clinical investigations in Japanese clinical oncology settings. We are now conducting a study to investigate the prevalence of incompetency and its associated factors using the SICIATRI.

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