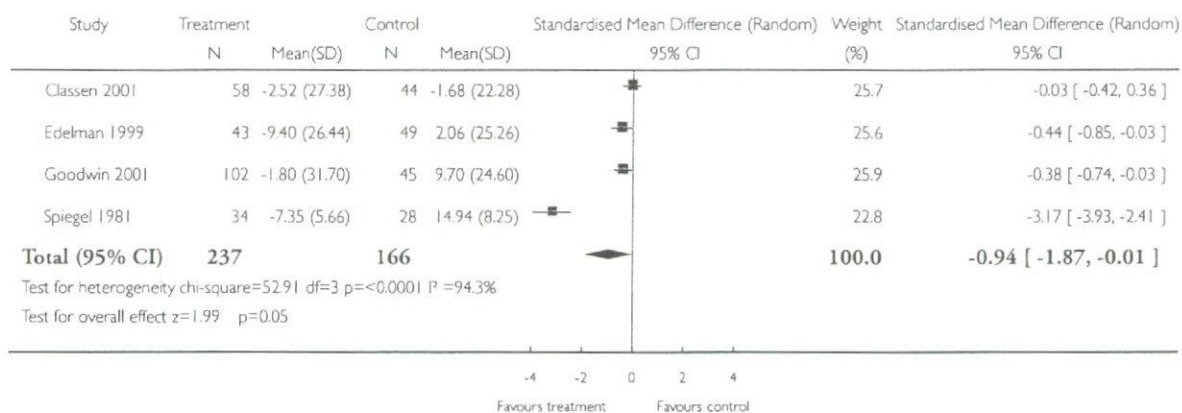


Analysis 01.03. Comparison 01 Psychotherapy versus treatment as usual, Outcome 03 Total Mood Disturbance

Review: Psychotherapy for depression among incurable cancer patients

Comparison: 01 Psychotherapy versus treatment as usual

Outcome: 03 Total Mood Disturbance

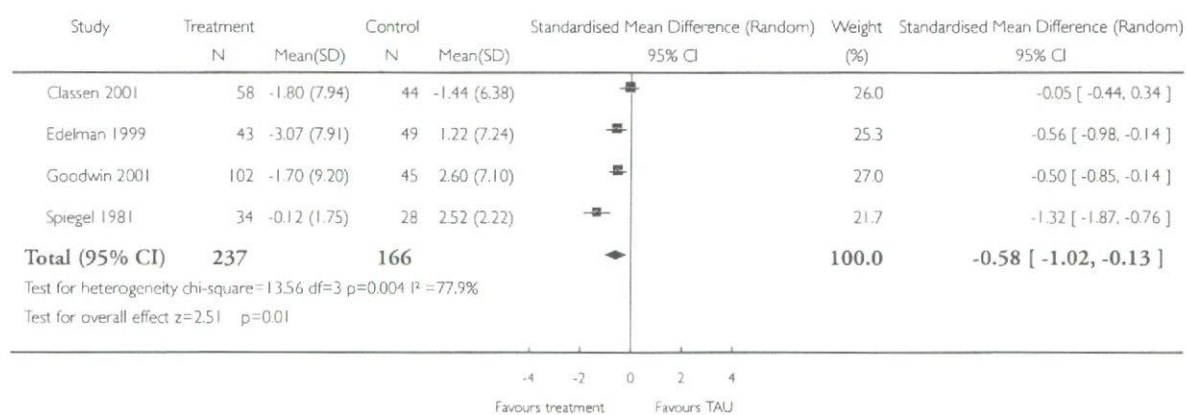


Analysis 02.01. Comparison 02 Subgroup analyses, Outcome 01 Depression

Review: Psychotherapy for depression among incurable cancer patients

Comparison: 02 Subgroup analyses

Outcome: 01 Depression

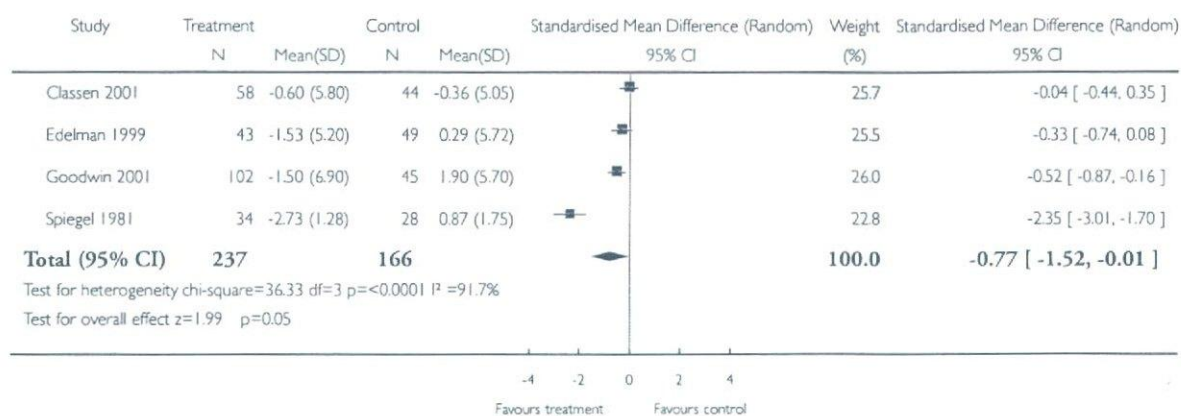


Analysis 02.02. Comparison 02 Subgroup analyses, Outcome 02 Anxiety

Review: Psychotherapy for depression among incurable cancer patients

Comparison: 02 Subgroup analyses

Outcome: 02 Anxiety

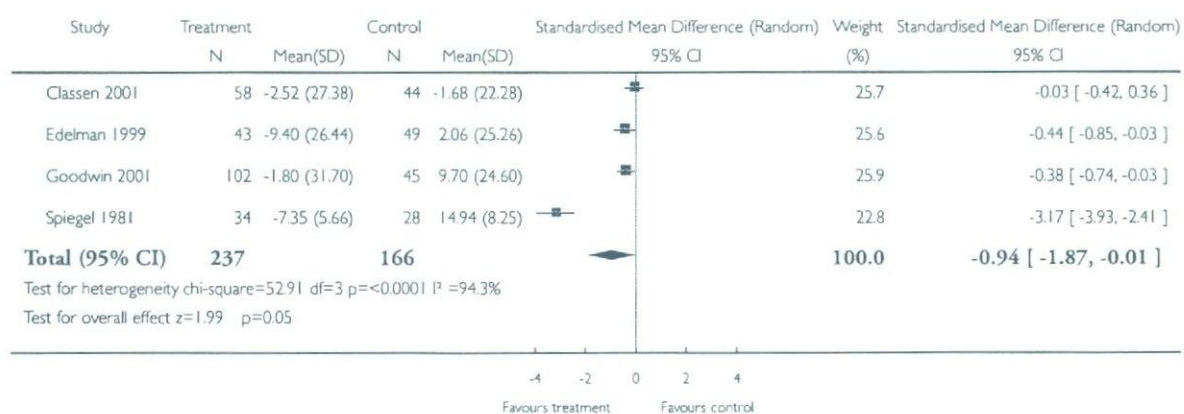


Analysis 02.03. Comparison 02 Subgroup analyses, Outcome 03 Total Mood Disturbance

Review: Psychotherapy for depression among incurable cancer patients

Comparison: 02 Subgroup analyses

Outcome: 03 Total Mood Disturbance

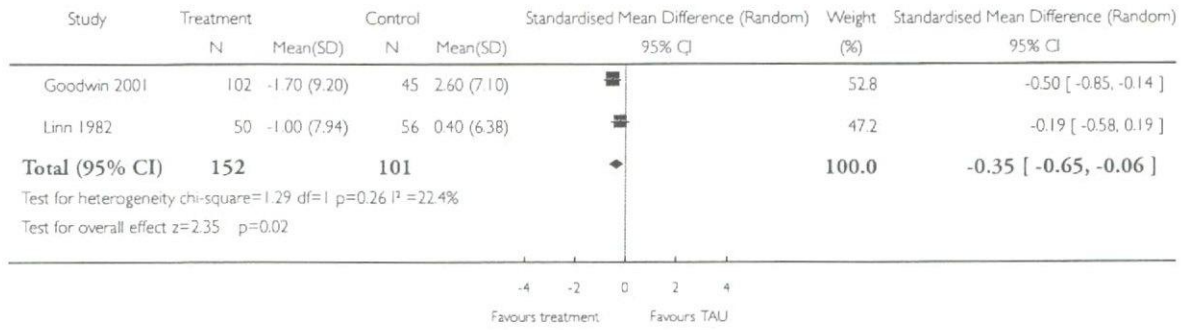


Analysis 03.01. Comparison 03 Sensitivity analyses, Outcome 01 Depression

Review: Psychotherapy for depression among incurable cancer patients

Comparison: 03 Sensitivity analyses

Outcome: 01 Depression



One-week Short-Term Life Review interview can improve spiritual well-being of terminally ill cancer patients

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Abstract

Purpose: The primary aim of this study was to assess the efficacy of the Short-Term Life Review on the spiritual well-being, as well as anxiety, depression, suffering, and happiness of terminally ill cancer patients.

Method: Thirty patients reviewed their lives in the first session and they confirmed the contents in the album based on the life review in the second session. Duration of the treatment was one week. Measurement instruments included Functional Assessment Chronic Illness Therapy-Spiritual (FACIT-Sp), Hospital Anxiety and Depression Scale (HADS), Numeric Rating Scales of Suffering (from 0 to 6) and Happiness (from 1 to 7).

Results: After the therapy, the mean FACIT-Sp scores increased from 16 ± 8.2 to 24 ± 7.1 , anxiety score significantly decreased from 6.8 ± 4.7 to 3.0 ± 2.2 , depression score significantly decreased from 10.2 ± 4.7 to 6.6 ± 4.1 , suffering score significantly decreased from 3.4 ± 1.9 to 1.8 ± 1.4 , and happiness score significantly increased from 4.6 ± 1.9 to 5.6 ± 1.6 . Total HADS scores significantly decreased from 17 ± 8.6 to 9.5 ± 5.4 .

Conclusion: The Short-Term Life Review is feasible and may be effective in improving the spiritual and psychosocial well-being of terminally ill cancer patients.

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Keywords: psychotherapy; Short-Term Life Review; terminally ill cancer patients; spiritual well-being

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Introduction

Terminally ill cancer patients often experience spiritual distress, such as that engendered by searching for a meaning or purpose in life, problems associated with relationships with familiar people, or religious problems, in addition to depression or anxiety. Until recently, there have been few interventions for these problems. This study describes an intervention to ameliorate spiritual distress in terminally ill cancer patients.

Butler [1] reported that the life review process is a mean of reintegration and can give new significance and meaning to an individual's life. It is defined as 'the progressive return to consciousness of prior experience, which can be re-evaluated with the intention of resolving and integrating past conflict, thereby giving new significance to one's life.' The elderly are often confronted with lone-

liness, anxiety, worry about near-future death, and low ability in performing activities of daily living (ADL), resulting in low self-esteem or depression. To cope with these psychological problems, life review interviews have been used. Previous studies have shown the effects of life review on depression [2,3], self-esteem [2], and life satisfaction [4].

For cancer patients, however, there are few empirical studies on the effects of life reviews. Ando *et al.* [5] reported the effects of structured life review intervention on spiritual well-beings in terminally ill cancer patients. This study involved four sessions once in a week and spiritual well-being was measured with a quality of life (QOL) questionnaire, SELT-M [6]. After the life review interview, the patients' mood, positive thinking, and spirituality significantly increased. However, this study encountered a feasibility problem: sample patients did not complete the four sessions. At the

Table 1. Patient backgrounds

Primary tumor site		Gender
Lung	<i>n</i> = 8	Male (<i>n</i> = 8)
Stomach	5	Female (<i>n</i> = 22)
Pancreas	2	Age
Gallbladder	2	Mean age: 74 (total SD = 9.1)
Uterine	2	Marital states
Breast	1	Married (<i>n</i> = 29); widow (<i>n</i> = 11), widower (<i>n</i> = 3)
Kidney	1	Non-married (1)
Leukemia	1	Religion
Rectal	1	Christian (<i>n</i> = 4)
Tongue	1	Buddhism (<i>n</i> = 3), None (<i>n</i> = 22)
Colon	1	ECOG-PS
Mesothelioma	1	1 (<i>n</i> = 1), 2 (<i>n</i> = 3)
Myeloma	1	3 (<i>n</i> = 13), 4 (<i>n</i> = 13)
Lymphoma	1	Duration from the interview to patients' death
		Mean: 67 days

end of the study, the physical conditions of 9 of the 21 patients (about 30%) extremely deteriorated and failed to complete the psychotherapy process. Although structured life review may be effective in improving the spiritual well-being of terminally ill cancer patients, the long sessions decrease the feasibility; thus, we need a shorter version of life review therapy.

Dignity psychotherapy is a therapy for terminally ill cancer patients with shorter session time [7]. This involves only two or three sessions. Dignity is defined as 'quality or state of being worth, honored, or estimated' [8], and this therapy helps patients maintain their dignity. Patients review their lives with the aid of routine questions and the session is recorded, edited, and transcribed. In 2 or 3 days after, there is another session. The therapist reads the transcription to the patients, who give comments and make revisions. Patients reported a heightened sense of dignity, a sense of purpose, a sense of meaning, an increased will to live, and a decrease in distress. This study suggests the possibility that the life review interview is effective even for a short term.

We propose a new psychotherapy—the Short-Term Life Review—with short sessions for terminally ill cancer patients. Although there are at least four sessions in the structured life review to review a patient's life along developmental stages [9], Short-Term Life Review involves only two sessions. In the first session, patients review their lives, and the review is then recorded and edited. The therapist makes an album after the first session. In the second session, the patient and therapist view the album, and confirm the contents with appreciation.

The primary aim of this study was to assess the efficacy of the Short-Term Life Review on the spiritual well-being, as well as anxiety, depression, sufferings, and happiness, or terminally ill cancer patients.

Material and method

Participants

The subjects were cancer patients from the palliative care unit of two general hospitals and one home-care clinic. The inclusion criteria for this study were (1) patients with incurable cancer; (2) patients without cognitive impairment; (3) patients 20 years of age or older; and (4) patients for whom the primary physicians agreed would benefit from the psychological interventions. During the 11-month-study period, 35 patients were recruited through primary physicians. Table 1 shows the patients' background.

Interventions

Ethical aspect of this study was validated by both the board and the ethical committee of St. Mary's Hospital and St. Mary's College.

The Short-Term Life Review has two parts. In the first part, patients review their lives, and in the second, they re-evaluate, re-construct, and appreciate their life. The interviewer was a clinical psychologist (therapist). The interview procedure was based on a structured life review interview that was conducted individually, and the patient was asked to re-evaluate both good and bad memories. Question items were mainly based on the structured life review; however, they were not along developmental stages, and some items from Chochinov *et al.* [7] were added. The following questions were asked in the reviewing session: (1) What is the most important thing in your life and why? (2) What are the most impressive memories in your life? (3) In your life, what was the event that or the person who affected you the most? (4) What is the most important role in your life? (5) Which is the proudest moment of your life? (6) Is there anything about you that your family would need to

know, are there things you would want them to tell you, and, if possible, are there things you would want them to remember? (7) What advice or word of guidance would you wish to pass on to the important people in your life or to the younger generation?

The patient's narratives were recorded, and the therapist tried to listen to each word uttered by the patient. After the first session, the interview was first transcribed verbatim and the therapist made the album. To make the album, (1) key words in the answer to each question were selected. Words or phrases used by the patient were written in the album as often as possible; both good and bad things were included and feelings or re-framed thoughts—how he feels now—were written in the album. (2) The therapist pasted photos or drawings from various books or magazines that were related to the patients' words or phrases, to make the album more beautiful and more memory provoking. It took a week for the treatment.

Outcome measurements

To measure the effects of the Short-Term Life Review, we used the Japanese version of Functional Assessment Chronic Illness Therapy-Spiritual (FACIT-Sp) [10]. The validity and reliability of the FACIT-Sp Japanese version is well established [11]. Secondary end-points were anxiety, depression, suffering, and happiness. Anxiety and depression were measured by the Japanese version of the Hospital Anxiety and Depression Scale (HADS) [12,13]. Further, we used numeric rating scale about suffering (0–6) and happiness (1–7) [14] to compare the effects of the Short-Term Life Review with that of Dignity Psychotherapy by Chochinov *et al.* [7].

Statistical analysis

To evaluate the efficacy of the Short-Term Life Review in improving the patients' spiritual well-being, the Wilcoxon signed rank test was conducted on all scores of each scale before and after the Short-Term Life Review. Correlation analysis was used to examine the relationships between spiritual well-being and other variables. For intention-to-treat analyses, we additionally calculated the treatment effects using all patient data by the last observation carried forward methods.

Results

Five of the patients were excluded from this study because of unexpected deterioration in health. Thus, a total of 30 patients completed all sessions. Two patients' consciousness level decreased due to disease progression, one had severe and uncontrollable pain, one developed pneumonia, and one lost motivation to participate because of decreasing ADL.

Table 2 shows average and standard deviation scores. After the Short-Term Life Review, the mean FACIT-Sp scores increased from 16 ± 8.2 to 24 ± 7.1 ($Z = -4.2, P = 0.001$), the anxiety score significantly decreased from 6.8 ± 4.7 to 3.0 ± 2.2 ($Z = -3.8, P = 0.001$), the depression score significantly decreased from 10.2 ± 4.7 to 6.6 ± 4.1 ($Z = -3.7, P = 0.001$), the suffering score significantly decreased from 3.4 ± 1.9 to 1.8 ± 1.4 ($Z = -3.5, P = 0.001$), and the happiness score significantly increased from 4.6 ± 1.9 to 5.6 ± 1.6 ($Z = -3.2, P = 0.002$). Total HADS scores significantly decreased from 17 ± 8.6 to 9.5 ± 5.4 ($Z = -4.1, P < 0.001$).

Those changes remained statistically significant using the intention to treat analysis: The mean FACIT-Sp scores significantly increased from 16 ± 7.8 to 23 ± 7.1 ($Z = -4.2, P = 0.001$), the anxiety score significantly decreased from 7.0 ± 4.8 to 3.7 ± 3.4 ($Z = -3.8, P = 0.001$), the depression score significantly decreased from 10.4 ± 4.6 to 7.2 ± 4.4 ($Z = -3.7, P = 0.001$), the suffering score significantly decreased from 3.5 ± 1.8 to 2.1 ± 1.5 ($Z = -3.5, P = 0.001$), and the happiness score significantly increased from 4.5 ± 1.9 to 5.3 ± 1.7 ($Z = -3.2, P = 0.002$). Total HADS scores significantly decreased from 17 ± 8.6 to 11 ± 6.8 ($Z = -4.1, P < .001$).

As shown in Table 3, the FACIT-Sp significantly correlated with anxiety ($r = -0.37$), depression ($r = -0.76$), total HADS ($r = -0.73$), sufferings ($r = -0.70$), and happiness ($r = 0.57$).

Discussion

Effects of Short-Term Life Review

The first important finding is beneficial effect of the Short-Term Life Review on spiritual well-being in terminally ill cancer patients. The fact that the FACIT-Sp scores significantly increased after the Short-Term Life Review shows the effect of this

Table 2. Changes in outcome measures

	FACIT-SP	Anxiety	Depression	Total HADS	Sufferings	Happiness
Before	16 ± 8.2	6.8 ± 4.7	10.2 ± 4.7	17 ± 8.6	3.4 ± 1.9	4.6 ± 1.9
After	24 ± 7.1	3.0 ± 2.2	6.6 ± 4.1	9.5 ± 5.4	1.8 ± 1.4	5.6 ± 1.6
P value	$Z = -4.2,$ $P = 0.001$	$Z = -3.8,$ $P = 0.001$	$Z = -3.7,$ $P = 0.001$	$Z = -4.1,$ $P = 0.001$	$Z = -3.5,$ $P = 0.001$	$Z = -3.2,$ $P = 0.002$

Table 3. Correlation coefficients among variables at the post Short-Term Life Review

	FACIT-Sp	Anxiety	Depression	Total HADS	Sufferings	Happiness
FACIT-Sp	1.0					
Anxiety	-0.37*	1.0				
Depression	-0.76**	0.41*	1.0			
Total HADS	-0.73**			1.0		
Sufferings	-0.70**	0.47*	0.73**	0.75**	1.0	
Happiness	0.57**	-0.27	-0.57**	-0.55**	-0.47**	1.0

* $P < 0.05$, ** $P < 0.01$.

therapy on spiritual well-being of cancer patients. Regarding the secondary endpoint, there were significant differences between pre- and post-intervention scores for anxiety, depression, suffering, and happiness.

Why does the Short-Term Life Review affect these variables? The following considerations may be relevant: (1) a patient can express emotion or distress without being concerned about the feelings of family or others. Most Japanese prefer not to give burden to family or friends. Moreover, in the sessions, there is ample time for patients to discuss anything they wish to mention, sometimes in an informal manner. This is related to psychological purification. (2) Patients can confirm their acquisitions or roles in life, narrating their lives as they have lived them, and can re-evaluate both good and bad memories with emotional support from the therapist. (3) Patients can view, touch, and appreciate their own album. Through these processes, patients find meaning in life and re-evaluate it, and their spiritual well-being increases. This results in a decrease in anxiety, depression, and suffering and an increase in happiness.

Adapting these processes with the previous theoretical model [15,16], we can explain the effects of Short-Term Life Review. A patient has a purpose or a goal for his life when he is healthy. However, when he falls into serious illness, it is often difficult for him to attain his purpose or a goal because of unexpected serious illness, and he feels much distress. In this situation, when he receives the Short-Term Life Review, he can re-think and modifies his original purpose or goals into attainable ones, he feels a positive mood. Short-Term Life Review may contribute for a patient to reconstruct his life being congruent with cancer in his life.

Feasibility

It would be remarkable for Short-Term Life Review to have high feasibility. The percentage of patients deteriorating with this therapy was only 17%, although in the previous study [5] it was 30% for patients using the Structured Life Review. We describe some factors related to feasibility. (1) The Short-Term Life Review is completed in a week, and this short-term intervention enables terminally ill cancer patients to complete an intervention. (2)

Patients with very low functionality in ADL can participate because the patients review their lives while lying on bed. Both problem-solving therapy for cancer patients [17] and cognitive behavior therapy for cancer patients [18] have proved to be effective. However, patients need some level of ADL; they may plan their schedule and conduct and evaluate their behavior or cognition. It may be difficult to conduct interventions for terminally ill cancer patients with much lower ADL. Moreover, the effects of these psychotherapies on spiritual well-being have not been evaluated. To manage spiritual distress, there is meaning-centered group psychotherapy [19], in which groups of patients talk about the meaning or purpose of life over a period of 8 weeks. However, it may be very difficult for terminally ill cancer patients with performance status of 3 or 4 to reach the end of this therapy and to travel to the places where the group sessions are held. In comparison with these previous studies, the present findings suggest that the Short-Term Life Review can be more feasible. Moreover, the procedures used in this therapy are clearly defined and medical personnel other than psychotherapists may be able to conduct it in various situations.

The following is the one of the cases. When a therapist began the session at the patient's bedside, a patient became emotional and covered his eyes while narrating his story. The therapist tried to be a therapeutic listener. The patient had never expressed his emotions in front of his family; however, he could readily express his emotions and feelings in the sessions. He was able to describe his suffering and his regret that he would die in the near future. He had worked as a gardener for a long time. It was very hard to become a gardener. There had been some failures when he was running his own small company, and he had worked hard. He described his life with his family, particularly his children, who were under 20 years old. After the first session, the therapist made an album for the patient. In the second session, the therapist and patient talked about the album and looked at it together. The patient listened to the therapist and became emotional. The therapist prompted the patient to re-evaluate both his good and bad memories by asking him to reconstruct his life, with questions like 'How do you recognize that memory now?' and 'how do you feel now?' The

patient wanted to live much longer, but had to reconstruct and integrate his life in a short time. He seemed to be satisfied that he was able to leave the park gardens, which many people are presently enjoying. He also expressed gratitude to his family and friends. He said 'These sessions were very helpful for me to set my memories in place.'

Comparison of Short-Term Life Review with Dignity Psychotherapy

There are both similarities and differences in methods between Short-Term Life Review and Dignity Psychotherapy. In both studies, patients review their lives for one time and there are some common questions. However, there are some differences between them. (1) In Dignity Psychotherapy, patients are offered the opportunity to address issues that matter the most to them or to speak of things they wish to remember the most as death draws near. In the Short-Term Life Review, the therapist does not intentionally prompt the patient to speak about the aftermath. (2) In the Short-Term Life Review, the therapist prompts the patient to review both good and bad memories to re-evaluate the bad memories and integrate them for patients' themselves; in Dignity Psychotherapy, however, bad memories or bad things are sometimes omitted from the transcript, because the transcript is for both the patient and his family. (3) In Dignity Psychotherapy, the therapist and the patient image something like an album in the second session, whereas in the Short-Term Life Review the therapist makes a small album based on the transcript after first session and both the patient and the therapists view the album together and the therapist promotes the patients to appreciate and re-evaluate their lives during the second session.

To compare the effects of the two therapies, we asked some common questions such as 'Are there anything that you would want your family to know about you, and are there things you would want them to tell?' In Dignity Therapy, the transcript is intended for those left behind. However, few patients answered this question and mentioned inheritance in the present study. There may be some cultural differences among patients. In future studies, we will select questions tailor made for each patient based on cultural differences.

Limitation

Finally, we mention the limitations of this study. First, there was no control group to enable us to assess the effects of this therapy because the terminally ill patients in this study were in a very serious physical and mental state and we could not burden them by asking questions that did not

contribute directly to their QOL. Second, the statistical significance in the measurement outcomes does not directly mean clinical significance. We were unable to conclude the clinical significance of this intervention due to the lack of established cut-off points of the FACIT-Sp. Third, almost all patients in this study were in palliative care ward or hospice care clinic, and the generalization of the findings to other situations cannot be automatically supported. Randomized controlled trial is promising to confirm the treatment benefits of the Short-Term Life Review interview.

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Original Article

Treatment Efficacy of Neural Blockade in Specialized Palliative Care Services in Japan: A Multicenter Audit Survey

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Abstract

More than 85% of cancer-related pain is pharmacologically controllable, but some patients require interventional treatments. Although audit assessment of these interventions is of importance to clarify the types of patients likely to receive benefits, there have been no multicenter studies in Japan. The primary aims of this study were (1) to clarify the frequency of neural blockade in certified palliative care units and palliative care teams, (2) determine the efficacy of interventions, and (3) explore the predictors of successful or unsuccessful intervention. All patients who received neural blockade were consecutively recruited from seven certified palliative care units and five hospital palliative care teams in Japan. Primary responsible physicians reported pain intensity on the Support Team Assessment Schedule, performance status, communication levels on the Communication Capacity Scale, presence or absence of delirium, opioid consumption, and adverse effects before and one week after the procedure on the basis of retrospective chart review. A total of 162 interventions in 136 patients were obtained, comprising 3.8% of all patients receiving specialized palliative care services during the study period. Common procedures were epidural nerve block with local anesthetic and/or opioids ($n = 84$), neurolytic sympathetic plexus block ($n = 24$), and intrathecal nerve block with phenol ($n = 21$). There were significant differences in the frequency of neural blockade between palliative care units and palliative care teams (3.1% vs. 4.6%, respectively, $P = 0.018$), and between institutions whose leading physicians are

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anesthesiologists or have other specialties (4.8% vs. 1.5%, respectively, $P < 0.001$). Pain intensity measured on the Support Team Assessment Schedule (2.9 ± 0.8 to 1.7 ± 0.9 , $P < 0.001$), performance status (2.7 ± 1.0 to 2.4 ± 1.0 , $P < 0.001$), and opioid consumption (248 ± 348 to 186 ± 288 mg morphine equivalent/day, $P < 0.001$) were significantly improved after interventions. There was a tendency toward improvement in the communication level measured on the Communication Capacity Scale. There was no significant improvement in the prevalence of delirium, but six patients (32%) recovered from delirium after interventions. Adverse effects occurred in 9.2%, but all were predictable or transient. No fatal complications were reported. Pain intensity was significantly more improved in patients who survived 28 days or longer than others ($P = 0.002$). There were no significant correlations of changes in pain intensity with the performance status or previous opioid consumption. In conclusion, neural blockade was performed in 3.8% of cancer patients who received specialized palliative care services in Japan. Neural blockade could contribute to the improvement of pain intensity, performance service status, and opioid consumption without unpredictable serious side effects. *J Pain Symptom Manage* 2008;36:461–467. © 2008 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

Key Words

Neural blockade, pain, neoplasm, palliative care

Introduction

Pain is one of the most common complications in cancer patients, and it significantly impairs their quality of life. Empirical studies have demonstrated that more than 85% of cancer-related pain is pharmacologically controllable, but the remaining patients require a multidisciplinary approach.^{1–4} As part of this multidisciplinary approach, many empirical studies have revealed the efficacy of neural blockade in cancer pain management refractory to standard pharmacological treatments.^{5–15} Audit assessment of interventional treatment is of importance to improve patients' quality of life by clarifying the types of patients likely to receive benefits. In Japan, however, no multicenter studies to date have investigated how frequently neural blockade is used in oncology or specialized palliative care settings; the efficacy and the predictors of successful interventions have not been evaluated. Therefore, as a preliminary study to develop a prospective audit registry system of neural blockade, we conducted this study with the primary aims: (1) to clarify the frequency of neural blockade in certified palliative care units and palliative care teams, (2) determine the efficacy of interventions, and

(3) explore the predictors of successful or unsuccessful intervention.

Patients and Methods

The study participants were consecutively recruited from the participating institutions. The inclusion criteria were adult cancer patients who required neural blockade to manage pain refractory to standard pharmacological management. The participating institutions were seven certified palliative care units and five hospital palliative care teams across the country, conveniently selected from 120 certified palliative care units and 20 palliative care teams where coresearchers were available. Due to the preliminary nature of this study and practical difficulties, we made no effort to enroll a representative sample of all specialized palliative care services in Japan. The institution researchers were requested to report all patients who received neural blockade for pain control in 2002–2003. For each patient, they reported pain intensity, performance status, communication levels, presence or absence of delirium, opioid consumption, and any adverse effects before and one week after the intervention on the basis of retrospective chart review. We used a structured data-collecting

sheet and standardized rating protocols to maximize the reliability.

Measurements

The degree of pain was evaluated using the Japanese version of the Support Team Assessment Schedule.¹⁶ Performance status was graded with reference to the ECOG Performance Status. The degree of communication was measured as Item 4 on the Communication Capacity Scale, originally a validated five-item observer-rating scale used to quantify communication capacity in terminally ill patients (Appendix).¹⁷ This item rated the degree of patients' capacity to achieve clear communication on a scale of 0–3, with a score of 0 or 1 indicating that the patient can achieve clear communication of complex or simple content, respectively. Delirium was diagnosed following the Diagnostic and Statistical Manual-IV. Retrospective grading using these scales achieved fair interrater reliability in previous studies.^{18,19} The total opioid dose was defined as the total amount of oral morphine equivalent following a standard ratio.²⁰

Statistical Analysis

Pre–post comparisons were performed with the paired Student's *t*-test or McNamara test, where appropriate. To explore the predictors of treatment success, we compared the changes in pain intensity between subgroups: patients with a performance status before intervention ≤ 2 ($n = 59$) vs. ≥ 3 ($n = 96$); patients who survived 28 days or longer ($n = 85$) vs. less than 28 days ($n = 27$); patients receiving more than 120 mg oral equivalent of morphine per day ($n = 66$) vs. others ($n = 89$), using two-way repeated-measures analysis of variance.

All analyses were performed using the Statistical Package for the Social Sciences (version 11.5).

Results

We obtained data on 162 interventions for 136 patients who required neural blockade during the study period. Eighteen patients received two procedures, and four patients received three procedures.

Table 1 shows the demographic characteristics of the patients. The main primary cancers were colorectal, gynecologic, and pancreatic.

Table 1
Patient Background ($n = 136$)

	% (n)
Mean age (years)	59 ± 15
Gender	
Male	63 (85)
Female	37 (51)
Performance status	2.7 ± 1.0
Mean survival (days)	103 ± 105 (median 67)
Treatment setting	
Palliative care units	43 (58)
Palliative care teams	57 (78)
Primary tumor site	
Colon, rectum	35 (47)
Uterus, ovary	14 (19)
Pancreas	13 (18)
Prostate, kidney, bladder	8.1 (11)
Lung	7.4 (10)
Liver, gallbladder, bile duct	5.1 (7)
Head and neck	3.7 (5)
Stomach	2.9 (4)
Breast	2.9 (4)
Esophagus	2.2 (3)
Soft tissue	2.2 (3)
Blood	2.2 (3)
Bone	1.4 (2)

Table 2 summarizes the procedures and pain characteristics. Common procedures were epidural nerve block with local anesthetics and/or opioids, neurolytic sympathetic plexus block, and intrathecal nerve block with phenol. Epidural block was temporary in 11 patients, and the median duration of placement was 22 days.

Frequency and Institution Differences

The total number of patients receiving specialized palliative care services during the study period was 3,553; thus, 3.8% of patients underwent procedures. The percentage ranged from 0.6% to 15% (median, 4.5%) among the 12 participating institutions. There were significant differences in the frequency of neural blockade between palliative care units and palliative care teams (3.1% vs. 4.6%, respectively, $P = 0.018$), and between institutions whose leading physicians are anesthesiologists or have other specialties (4.8% vs. 1.5%, respectively, $P < 0.001$).

Treatment Efficacy and Safety

Overall, pain intensity measured on the Support Team Assessment Schedule, performance status, and opioid consumption were significantly improved after neural blockade (Table 3). Opioid consumption fell 30% or more in 33% of the patients ($n = 43$). In addition, there was

Table 2
Procedure and Pain Characteristics
(n = 162 Interventions)

	% (n)
Procedures	
Epidural nerve block with local anesthetics and/or opioids	52 (84)
Sympathetic plexus block	15 (24)
Intrathecal nerve block with phenol	13 (21)
Peripheral nerve block	6.8 (11)
Epidural nerve block with phenol	5.6 (9)
Intrathecal nerve block with local anesthetics	1.9 (3)
Trigeminal nerve block	1.9 (3)
Selective root block	1.9 (3)
Impair ganglion block	1.2 (2)
Stellate ganglion block	1.2 (2)
Pain characteristics	
Location	
Hip, perineum, anus	30 (57)
Lower extremity	18 (34)
Abdomen	17 (32)
Lumbar, back	14 (27)
Chest	12 (22)
Shoulder, upper extremity	5.3 (10)
Head, neck	4.2 (8)
Etiology	
Cancer-related	83 (135)
Procedure-related	8.6 (14)
Benign	8.0 (13)
Characteristics	
Somatic	34 (55)
Visceral	20 (33)
Somatic and neuropathic	15 (24)
Neuropathic	14 (22)
Somatic and visceral	12 (19)
Somatic and visceral and neuropathic	3.1 (5)
Visceral and neuropathic	2.5 (4)

a tendency toward improvement in the communication levels measured on the Communication Capacity Scale, although the difference did not reach significance.

On the other hand, there was no significant improvement in the prevalence of delirium. In 19 patients with delirium, however, six patients (32%) recovered after interventions.

By subgroup analyses (i.e., epidural analgesia, neurolytic sympathetic plexus block, and intrathecal neurolytic analgesia), pain intensity was significantly improved after interventions in all subgroups (Table 4). There was no significant improvement in the communication level or prevalence of delirium. The performance status was significantly improved in the subgroups of patients receiving epidural analgesia and sympathetic plexus block, but not in those receiving intrathecal neurolytic analgesia. Opioid consumption significantly decreased in patients receiving epidural analgesia and intrathecal neurolytic analgesia, but not in those receiving sympathetic plexus block.

Safety

Adverse effects occurred in 15 of 162 procedures (9.2%) (Table 5). Detrusor sphincter dyssynergia occurred after intrathecal nerve block, although this was a predictable and informed complication in all cases. Other complications were transient, and no fatal event was reported.

Predictors of Successful Treatment

Pain intensity was significantly more improved in patients who survived 28 days or longer than others (Fig. 1, $P = 0.002$). There were no significant differences in the changes in pain intensity between patients with a performance status ≤ 2 vs. those ≥ 3 , and patients receiving more than 120 mg oral equivalent of morphine per day vs. others (data not shown).

Table 3
Overall Treatment Efficacy (n = 162 Interventions)

	Before	One Week After	P
Pain ^a	2.9 ± 0.8	1.7 ± 0.9	<0.001
Severe (≥3)	68% (n = 110)	19% (n = 31)	
Performance status	2.7 ± 1.0	2.4 ± 1.0	<0.001
3 or 4	59% (n = 96)	46% (n = 74)	
Communication capacity ^b	0.31 ± 0.67	0.26 ± 0.62	0.083
No clear communication	9.9% (n = 16)	8.0% (n = 13)	
Delirium	12% (n = 19)	11% (n = 18)	1.0
Opioid consumption (mg/day) ^c	248 ± 348	186 ± 288	<0.001

^aEvaluated using the Support Team Assessment Schedule over the range of 0-4. A higher score indicates a greater level of pain intensity.

^bMeasured as Item 4 on the Communication Capacity Scale over the range of 0-3. A higher score indicates a greater level of communication impairment. No clear communication was defined as a score of 2 or 3.

^cCalculated as the total amount of oral morphine equivalent to a daily dose.

Table 4
Treatment Efficacy of Each Procedure

	Before	One Week After	P
Epidural nerve block with local anesthetics and/or opioids			
Pain ^a	3.0 ± 0.9	1.7 ± 0.9	<0.001
Severe (≥3)	73% (n = 58)	57% (n = 45)	
Performance status	2.8 ± 1.1	2.6 ± 1.0	<0.001
3 or 4	68% (n = 54)	56% (n = 44)	
Communication capacity ^b	0.2 ± 0.5	0.2 ± 0.5	0.32
No clear communication	6.3% (n = 5)	6.3% (n = 5)	
Delirium	6.3% (n = 5)	8.9% (n = 7)	0.69
Opioid consumption (mg/day) ^c	210 ± 298	162 ± 258	<0.001
Sympathetic plexus block			
Pain ^a	2.6 ± 0.9	1.7 ± 0.9	0.03
Severe (≥3)	52% (n = 12)	13% (n = 3)	
Performance status	2.2 ± 0.8	1.9 ± 0.8	<0.01
3 or 4	39% (n = 9)	30% (n = 7)	
Communication capacity ^b	0.1 ± 0.5	0.04 ± 0.2	0.16
No clear communication	4.3% (n = 1)	0% (n = 0)	
Delirium	8.7% (n = 2)	0% (n = 0)	—
Opioid consumption (mg/day) ^c	277 ± 319	246 ± 326	0.27
Intrathecal nerve block with phenol			
Pain ^a	2.7 ± 0.7	1.5 ± 0.9	<0.001
Severe (≥3)	68% (n = 13)	47% (n = 9)	
Performance status	2.8 ± 0.8	2.6 ± 0.9	0.16
3 or 4	68% (n = 13)	47% (n = 9)	
Communication capacity ^b	0.6 ± 0.8	0.4 ± 0.7	0.19
No clear communication	21% (n = 4)	11% (n = 2)	
Delirium	26% (n = 5)	16% (n = 3)	0.50
Opioid consumption (mg/day) ^c	452 ± 588	295 ± 419	0.014

^aEvaluated using the Support Team Assessment Schedule over the range of 0–4. A higher score indicates a greater level of pain intensity.

^bMeasured as item 4 on the Communication Capacity Scale over the range of 0–3. A higher score indicates a greater level of communication impairment. No clear communication was defined as a score of 2 or 3.

^cCalculated as the total amount of oral morphine equivalent to a daily dose.

Discussion

This is the first multicenter study to assess the clinical utility of neural blockade in specialized palliative care services in Japan. One important finding is the clarification of the frequency of neural blockade in certified palliative care units and palliative care teams. In this study, 3.8% of patients receiving specialized palliative care services required neural blockade for acceptable pain control. This figure is generally close to the previous findings in Western countries,^{1–4} and suggests that some cancer patients require

interventional pain treatment to achieve maximum balanced analgesia. Specialized palliative care patients should thus have open access to pain specialists who can provide these interventions. Of special note was a significant, although modest, difference in the frequency of neural blockade among institutions: the treatment setting (palliative care units vs. teams) and the specialty of leading physicians. This indicates the strong need for explicit referral criteria for interventional pain treatment to maximize the appropriate referral of potentially benefiting patients.

The second and most important finding of this study is clarification of the efficacy and safety of these interventions. This study suggests that neural blockade can improve pain intensity, performance status, and opioid consumption without unpredictable serious adverse effects. This finding is consistent with previous studies,^{5–11} and strongly supports the clinical utility of neural blockade in carefully selected patient refractory to standard pharmacological pain management.

Table 5
Adverse Effects

	n (%)
Detrusor sphincter dyssynergia	5 (3.1)
Hypotension	3 (1.9)
Back pain	2 (1.2)
Transitory motor weakness	1 (0.6)
Infection	1 (0.6)
Respiratory depression	1 (0.6)
Headache	1 (0.6)
Acute alcoholism	1 (0.6)

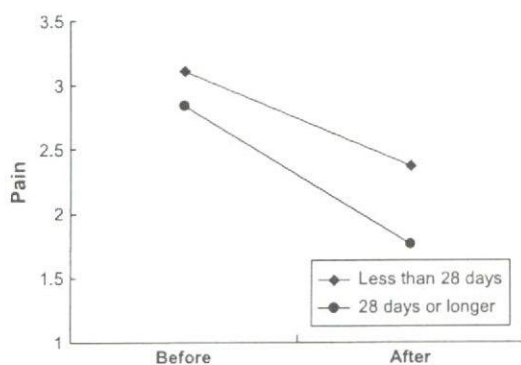


Fig. 1. Changes in pain intensity between patients surviving 28 days or longer vs. less than 28 days.

This study failed to demonstrate beneficial effects on communication levels and cognitive dysfunction such as delirium, despite an increased performance status and reduced opioid consumption. The possible interpretations are (1) lack of sensitivity of outcome measures, especially the retrospective nature of symptom assessment, (2) cognitive impairment occurring due to not only opioids but also deteriorated general conditions such as hypercalcemia and brain metastasis at an advanced stage, and (3) the small number of subjects resulting in a lack of sample power. In this study, however, six of 19 patients recovered from delirium, suggesting that neural blockade could improve cognitive impairment in some patients, such as those receiving high-dose opioids without other causes influencing cognitive capacity.

The third important finding is the exploration of predictors of successful or unsuccessful interventions. This study identified longer survival as an indicator of success in neural blockade. This result, along with a similar observation,⁶ suggests that earlier referral for neural blockade could contribute to a better quality of life of cancer patients.

This study is preliminary, and has several limitations. First, the retrospective nature of the assessment is an apparent limitation of the evaluation of treatment efficacy. Second, the participating institutions were selected for convenience, and so these findings cannot be automatically generalized to other institutions. Third, long-term efficacy was beyond our study aims. Fourth, no patients in this study received intrathecal opioid therapy, because this

technique was not a common practice in Japan during this study period.

In conclusion, neural blockade was performed in 3.8% of cancer patients who received specialized palliative care in Japan. This could contribute to the improvement of pain intensity, performance status, and opioid consumption without unpredictable serious side effects. A prospective audit study is expected to identify the treatment efficacy of each interventional procedure in palliative care settings.

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Appendix

Communication Capacity Scale (Item 4)

- 0 Patients can voluntarily express themselves clearly, even when the theme is complex.
- 1 Patients are able to voluntarily express themselves clearly, but the contents are limited to simple matters. For example, they only use short sentences consisting of two or three words such as “It hurts” or “I want some water.”
- 2 Patients can express themselves voluntarily, but the contents are slightly incoherent. Or, although patients do not express themselves voluntarily, they are verbally able to respond meaningfully when stimulated.
- 3 Patients can voluntarily express themselves, but the contents are obviously incoherent. Or, patients do not express themselves and cannot verbally respond meaningfully even when stimulated.

A pilot study of transformation, attributed meanings to the illness, and spiritual well-being for terminally ill cancer patients

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ABSTRACT

Objective: The present study investigated what types of transformation terminally ill cancer patients experienced from diagnosis until the terminal stage, what meanings terminally ill cancer patients attributed to their illness, and whether or not those who attributed positive meaning to their illness achieved high levels of spiritual well-being as a preliminary study.

Method: Ten terminally ill cancer patients in the hospice wards of two general hospitals participated. A clinical psychologist conducted a semistructured interview with the patients individually for about 60 min. Patients completed the FACIT-Sp and HADS before the interview and talked about the meanings of cancer experience. The contents of the interviews were analyzed qualitatively. Patients were separated into high and low levels of spiritual-well being by the median of FACIT-Sp scores.

Results: Three types of transformation were extracted: “group with peaceful mind,” “group with both positive attitude and uneasy feeling,” and “groups with uneasy feeling.” As attributed meanings to the illness, five categories were extracted: “positive meaning,” “natural acceptance,” “negative acceptance,” “search for meaning,” and “regret and sorrow.” Patients in the high level spiritual well-being group attributed the meaning of illness to “positive meaning” and “natural acceptance,” and those in the low level spiritual well-being group attributed it to “regret and sorrow” and “search for meaning.”

Significance of results: Some Japanese terminally ill cancer patients experienced positive transformation, and patients who attributed “positive meaning” and “natural acceptance” to their illness experience achieved high levels of spiritual well-being.

KEYWORDS: Attributed meaning, Spiritual well-being, Terminally ill cancer patients

INTRODUCTION

Spiritual well-being is one of the most important factors in any human's quality of life. The fact that a correlation between low spiritual well-being and the desire for death and thoughts about suicide is more than that in depression (McClain et al., 2003) shows

the importance of spiritual well-being. It allows a person to experience transcendent meaning in life (Puchalski & Romer, 2000) and involves concepts of “faith” and “meaning” (Karasu, 1999). For terminally ill cancer patients, the meaning of their lives or meaning of their illness experience is important.

Attributed meaning to the illness experience is an affective factor in psychosocial adjustment for cancer patients. Stanton et al. (2002) found that patients with breast cancer who found positive meaning in their illness were psychologically adaptive. Tomich

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and Helgeson (2002) demonstrated that the ability to successfully reconstitute a meaning of life following diagnosis of cancer has been associated with general measures of psychological adjustment. These studies are based on the meaning-making coping theories such as the "Theory of Cognitive Adaptation" (Taylor, 1983) or the "Transactional Model of Stress and Coping" (Park & Folkman, 1997), in which, when people find meanings in a stressful life event and recognize it as important, they can cope with it. Taylor (2000) showed that breast cancer survivors became adaptive psychologically when they found positive meanings in their illness experience. Though patients were shocked at the diagnosis, they found positive meanings and experienced psychological positive transformation. This transformation processes included four phases; encountering darkness, converting darkness, encountering light, reflecting light.

Though Taylor (2000) investigated the positive transformation type of cancer survivors whose psychological status changed from negative to positive and the kinds of meanings for them, it was not clear what other transformation types there were, what kinds of meanings terminally ill cancer patients attributed to the cancer experience, and patients who attributed positive meanings were adaptive in spiritual well-being. Because there were some differences in views for good death between Western culture and Japan (Hirai et al., 2006), for example, autonomy in decision making, we expected that there were other kinds of transformation types or meanings for Japanese patients. The present study investigated (1) what types of transformation terminally ill cancer patients experienced, (2) what kind of meanings terminally ill cancer patients attributed to the illness experience, and (3) patients who attributed positive meaning to the illness achieved the high spiritual well-being.

METHOD

Sample

The participants were cancer patients from the palliative care unit of two general hospitals (Table 1). The inclusion criteria for this study were patients with advanced-stage cancer III /IV, without cognitive impairment, and 20 years of age or older. During the 3-month study period, 10 patients were recruited. To assess their performance status, we used the Eastern Cooperative Oncology Group performance status scale Oken et al. (1982).

Measures

To measure the state of spiritual well-being and subjects' psychological state, we used the Japanese

version of the Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being Scale (FACIT-Sp; Peterman et al., 2002). The validity and reliability of the Japanese version of the FACIT-Sp is well established (Noguchi et al., 2004). The range of the α reliability score was from .81 to .91. The standard mean score for the normal population is 32. High scores mean high levels of spiritual well-being. Anxiety and depression were also measured using the Japanese version of the Hospital Anxiety and Depression Scale (HADS; Kitamura, 1993; Zigmond & Snaith, 1983). High scores mean high anxiety and depression. The cut-off point of the HADS is 10/11 and patients scoring over 11 may have some problems.

Procedure

The interviewer was a clinical psychologist, and all interviews were conducted individually. St. Mary's College ethical board permitted this study. The interviews were based on the questions reported in Taylor's (2000) study with breast cancer patients and typically lasted half an hour. Each semistructured interview involved two questions: "Please recall how your mood or psychological status has changed from the diagnosis until now." and "What does having cancer mean to you?" It was an open-ended question, and the patients were permitted to talk freely. The interviews were written down. We did not record the interviews because most of the patients did not want to be recorded. The interview session was only one time because patients at this period in these hospices were in very advanced stages and we estimated that it would be impossible to meet all participants two times. We met 10 patients because we wanted to know the tendency as a very preliminary study.

Data Analysis

As a quantitative analysis to find transformation types and kinds of meanings, for initial coding, the transcribed interviews of each subject were analyzed line by line, and any contents that were considered to be related to meanings were extracted. The extracted codes were classified, codes with a common meaning were categorized together, and categories and subcategories were formed and integrated. Joint analytical meetings of investigators were held on some occasions for this purpose. Strategies for increasing the trustworthiness of the data and analysis included having the investigator conduct all interviews and analysis, concurrent data collection, and analysis until data were saturated. Two researchers coded and categorized. The investigator also obtained feedback and validation about the methods and preliminary analysis from a nurse researcher expert in

Table 1. *Patients' background*

Patient	Age	Gender	Tumor site	Stage	Performance status
Patient 1	54	Female	Nerve fiber	IV	4
Patient 2	59	Male	Oral	IV	2
Patient 3	61	Male	Lung	IV	4
Patient 4	83	Female	Lung	III	3
Patient 5	51	Female	Liver	IV	4
Patient 6	62	Male	Stomach	IV	4
Patient 7	76	Female	Rectum	IV	4
Patient 8	42	Male	Lung	IV	4
Patient 9	76	Female	Rectum	IV	3
Patient 10	66	Female	Liver	IV	4

qualitative approaches. The FACIT-Sp and HADS scores were used to examine what kinds of meanings terminally ill cancer patients attributed to the illness. Patients were separated into two groups by the median of the FACIT-Sp scores.

RESULTS

Types of Transformation

We extracted three types of transformation. One is the "group with a peaceful mind." Patient 4 felt dislike of cancer when she was diagnosed; however, she changed her mind such that she followed her sons' advice and preferred to let matters take their course. Patient 7 was an elderly women and she remembered her young, good days and was satisfied with them. Patient 9 lost her will to live when she was diagnosed; however, she encountered art or other patients' efforts, found meanings to live, and changed positively. These patients' mood was peaceful.

The second was the "group with positive attitude and uneasy feelings." Patient 5 was much surprised when she was diagnosed, and recognized others' kindness slowly. However, she suffered from the discrepancy between her self-image and the present status. Patient 1 had not considered her illness serious at first; however, her physical strength suddenly decreased. She almost accepted her present status, but she was very sorry simultaneously. These patients felt both good and bad mood psychologically.

The third group was the "group with uneasy feelings." Patients in this group had expectation for cure of their cancer; however, their physical conditions were serious and they felt anxiety, regret, sorrow, worry, or pain.

Meanings of Cancer

The answers obtained to the question, "What does having cancer mean to you?" were then grouped into five categories.

Positive Meaning

Patient 9 lost her will to live when she was diagnosed. However, she had been touched by the beauty of music and art, and had encountered other patients who made an effort to live. She found positive meaning such as "I learned many things here. Transcendent powers may guide me here" (*recognition of transcendence*). Patient 5, Patient 6, and Patient 9 recognized kindness of others after becoming ill and became compassionate towards them (*profound appreciation toward others*) and had wished to do something to return the kindness to other people (*wish to do based on illness*). Patient 2 suffered from side effects as a result of long-term medical treatment, but he praised himself for coping with medical treatments (*increased self-respect*). Some patients reflected upon their unconcern about their condition and appreciated their health (*healthy perspective about self*).

Natural Acceptance

Patient 4 and Patient 7 said, "I do not dwell on matters seriously." Patient 7 was an old woman and satisfied with her life. She said, "I let things take their course." She thought that her illness was one of many life events and accepted it naturally. Patient 4 had a lot of family support and had no worries such as economy or family problems. These patients stopped controlling everything and left matters to take their own course.

Negative Acceptance

Patient 1 said, "There is no way for me to control the disease." She could not move any more and felt helpless; thus she made an effort to let go of her control over almost all things. Patient 8 wanted to do many things such as travel and volunteer work; however, he had to give up his dreams. Thus he accepted the present states negatively. And, Patient 10 said sadly that "I tried to take much complementary medicine;

however, I could not do anything effectively. Now, I think that I should let the matter take its course.”

Search for Meaning

Patient 2, Patient 3, Patient 5, and Patient 8 asked why they had gotten cancer. Some of them reasoned that the illness was caused by “blasphemy” or “karma.”

Regret and Sorrow

Some patients felt that their way of living had changed unexpectedly and unintentionally. They either wanted to do something or had many things left to do. They experienced profound regret. Some patients experienced sorrow for other reasons. One patient said, “I am very sorry that I cannot play my role.”

Relationship between Spiritual Well-being and Positive Meaning

Table 2 shows both the FACIT-Sp scores and attributed meanings to illness in addition to HADS. We can classify patients into two groups based on the mean FACIT-Sp score (32) for the normal population. Patients over the mean score constituted the high spiritual well-being group and those below the mean score constituted the low spiritual well-being group. Observing main attributed meanings to the illness, patients in the high spiritual well-being group attributed positive meanings or a natural acceptance to the illness. On the other hand, those in the low spiritual well-being group attributed “regret and sorrow,” and “search for meaning” to the illness.

Table 2. *Attributed meaning of high and low spiritual well-being groups separated by the standardized means of FACIT-Sp score (32)*

Patient	FACIT-Sp	HADS	Attributed meanings to the illness	
			Main meaning	Submeaning
High score group				
Patient 9	48	3	Positive meanings	
Patient 4	47	4	Natural acceptance	
Patient 5	37	17	Positive meaning	Search for meaning
Patient 7	33	14	Positive meaning	Natural acceptance
Low score group				
Patient 1	24	15	Regret and sorrow	Negative acceptance
Patient 3	23	19	Search for meaning	
Patient 8	21	12	Search for meaning	Negative acceptance
Patient 10	21	14	Regret and sorrow	Negative acceptance
Patient 6	19	18	Regret and sorrow	Positive meaning
Patient 2	16	9	Regret and sorrow	Positive meaning

DISCUSSION

Types of Transformation

Three types of transformation of “group with a peaceful mind,” “group with positive attitude and uneasy feelings,” and “group with uneasy feelings,” were extracted. The type “group with peaceful mind” is similar to “positive transformation” in Taylor (2000) in the point that patients were adaptive. And these three types of transformation accord with a study for cancer survivors (Carpenter et al., 1999). They also extracted three types of transformation: positive transformation; minimal transformation, in which patients felt some self-transformation; and feeling stuck, in which patients wanted to change, but they could not. These results suggest that there are similarities in transformation types both in cancer survivors and terminally ill cancer patients.

Moreover, as for trigger of positive transformation, Patient 9 conspicuously changed from a negative psychological status to a positive one by encountering good art and other patients’ effort. As Compton (2005) demonstrated that aesthetic sense is important for increasing humans’ well-being, good music promoted the positive transformation. Although Coward (2003) demonstrated an intervention to facilitate self-transcendence, we need to clarify factors of triggers of transformation much more in order to develop suitable interventions to support patients in the “group with uneasy feelings.”

Meaning of Cancer

There were five kinds of attributed meanings (positive meaning, natural acceptance, negative acceptance,