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Development and preliminary evaluation of communication skills training program for oncologists based on patient preferences for communicating bad news

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ABSTRACT

Objective: The purposes of this study were to develop a communication skills training (CST) workshop program based on patient preferences, and to evaluate preliminary feasibility of the CST program on the objective performances of physicians and the subjective ratings of their confidence about the communication with patients at the pre- and post-CST.

Methods: The CST program was developed, based on the previous surveys on patient preferences (setting up the supporting environment of the interview, making consideration for how to deliver bad news, discussing about additional information, and provision of reassurance and emotional support) and addressing the patient's emotion with empathic responses, and stressing the oncologists' emotional support. The program was participants' centered approach, consisted a didactic lecture, role plays with simulated patients, discussions and an ice-breaking; a total of 2-days. To evaluate feasibility of the newly developed CST program, oncologists who participated it were assessed their communication performances (behaviors and utterances) during simulated consultation at the pre- and post-CST. Participants also rated their confidence communicating with patients at the pre-, post-, and 3-months after CST, burnout at pre and 3 months after CST, and the helpfulness of the program at post-CST.

Results: Sixteen oncologists attended a newly developed CST. A comparison of pre-post measures showed improvement of oncologists' communication performances, especially skills of emotional support and consideration for how to deliver information. Their confidence in communicating bad news was rated higher score at post-CST than at pre-CST and was persisted at 3-months after the CST. Emotional exhaustion scores decreased at 3-months after CST. In addition, oncologists rated high satisfaction with all components of the program.

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Significance of results: This pilot study suggests that the newly developed CST program based on patient preferences seemed feasible and potentially effective on improving oncologists' communication behaviors what patients prefer and confidence in communicating with patients.

KEYWORDS: Communication skills training, Patients' preference, Bad news, Patient-physician relationship

INTRODUCTION

The communication skills of physicians delivering bad news about cancer, such as an advanced cancer diagnosis, can affect the degree of a patient's distress (Uchitomi et al., 2001; Schofield et al., 2003; Morita et al., 2004). However, many physicians do not have a standard strategy for delivering bad news to patients (Baile et al., 2000) and find it difficult to communicate bad news with cancer patients and their relatives (Fujimori et al., 2003).

Therefore, communication skills training (CST) has been designed to enhance physicians' communication skills when delivering bad news and has been shown to improve both the objective performance of physician and subjective ratings of their confidence about communicating with patients (Baile et al., 1999; Fallowfield et al., 2002; Jenkins & Fallowfield, 2002; Back et al., 2007; Lenzi et al., 2010). However these CST programs do not necessarily have a strong theoretical basis (Girgis et al., 1999; Cegala & Lenzmeier, 2002) and reflect patient preferences (Butow et al., 1996; Parker et al., 2001). Consequently, the provision of CST cannot always improve patients' distress and satisfaction with care (Shilling et al., 2003; Fellows et al., 2004). Meanwhile, patient preferred communication features have been linked with lower psychological distress and higher satisfaction levels (Schofield et al., 2003). Therefore, interventions in enhancing physicians' communication skills that are based on the patients' preferences are needed (Cegala et al., 2002; Schofield et al., 2003).

According to our previous reports about patient preferences for physicians' styles of communicating bad news, cancer patients have preferred that physicians communicate bad news while taking into account setting up the supportive environment of the interview, giving consideration on how to communicate the bad news, providing various information which patients would like to know, and providing reassurance and emotional support to patients and their relatives (Fujimori et al., 2005; 2007; 2009). We also suggested the most difficult communication issues for physicians in clinical oncology were breaking bad news (for example, a diagnosis of advanced cancer, recurrence, and stopping anti-cancer treatment), providing emotional support, and dealing with patients' emotional responses (Fujimori et al., 2003).

The purposes of this study were to develop a CST workshop program for oncologists to improve patient preferred communication skills when breaking bad news based on the previous studies and to evaluate preliminary feasibility the CST program on the objective performances of physicians and the subjective ratings of their confidence about the communication with patients at the pre- and post- CST.

METHODS

CST Program Development

The CST program was designed to aim that oncologists learn to patients' perceive preferences and needs for communication of each patient, based on our previous surveys on the preferences of Japanese cancer patients regarding the disclosure of bad news (Fujimori et al., 2005; 2007; 2009). The conceptual communication skills model was consisted of four dimensions, referred to as SHARE: S, setting up the supporting environment of the interview; H, make consideration for how to deliver the bad news; A, discuss about various additional information which patients would like to know; and RE, provision reassurance and addressing the patient's emotion with empathic responses. Especially, the program stressed RE, because it is the most important patient preference (Fujimori et al., 2007; Fujimori & Uchitomi, 2009) and also one of the most difficult communication skills for physicians (Fujimori et al., 2003). The conceptual model had been confirmed content validity by two psychiatrists, a psychologist and two oncologists who were experienced attending staff in clinical oncology with knowledge about communication between patients and oncologists.

The program is participants' centered approach and consisted of a 1-hour computer-aided didactic lecture with text and video, 8-hours role plays with simulated patients, discussions and an ice-breaking; a total of 2-days, based on previous studies (Fujimori et al., 2003; Fellows et al., 2004) and discussion about feasibility by two psychiatrists and a psychologist who were experienced attending staff in clinical oncology with knowledge about communication between patients and oncologists. The program provides the suitable communication in the three situations of breaking bad news to patients: diagnosis of advanced cancer, recurrence, and stopping an anticancer treatment. These situations were found difficult to deal with in practice by physicians (Fujimori et al., 2003). To role-play, many scenarios were drawn up tailored to each participants' specialties. The participants were divided into groups of four each with two facilitators.

The facilitators were psychiatrists, psychologists, and oncologists, all of whom had had clinical experience in oncology for 3 or more years and had participated in specialized 30-hours training workshops on facilitating workshops on communication skills in oncology. The simulated patients, who had had experience in medical school for 3 or more years, were also participated 30-hours training workshops. To strengthen in improving physicians' empathic responses, facilitators lead a discussion and role plays on the potential needs and emotion of the patient and communication which patients prefer physicians' empathic responses during a lecture and discuss the SPs express during role plays.

Evaluation of the CST Program

Participants

Oncologists in Japan attended the CST program at National Cancer Center Hospital East. All participants were expected by their hospital directors and local district medical directors to promote palliative care in their hospitals and surrounding area. After giving written informed consent, the oncologists participated in the study.

Measurement

The Objective Performance of Communication Skills. Before and after participating in the workshop, oncologists' performances, such as behaviors and utterances, were recorded using a video-camera during a consultation with simulated patients, while they were asked to tell a patient an inoperable advanced cancer. Their consultation video files were assessed in random order by two blind-raters independently, who trained more than 60-hours in order to standardize the interpretation and application of the assessment based on the manuals, using two assessment tools. First, we prepared the 32 items for the impressions of participants' performances during simulated consultation, which were based on the patient preferences: setting up the supporting environment of the interview, consideration for how to deliver the bad news, discussing additional information, and providing reassurance and addressing the patient's emotion with empathic responses (Fujimori et al., 2007). The average Spearman correlation coefficients of each intra-coder were 0.79 and 0.76. The average Spearman correlation coefficient of inter-coder was 0.78, except for five items which showed the correlation coefficients were less than 0. Thus, we only evaluated 27 items.

The Roter interaction analysis system (RIAS) (Roter et al., 1995) was also used for analyzing the objective utterances of communication skills. The RIAS has 42 mutually exclusive items for physicians and patients' utterances. In the RIAS, the unit of analysis is the "utterance," defined as the smallest discriminable speech segment. Every utterance is assigned to one of the mutually exclusive items that were aligned with our training, and then researchers condense them into fewer theoretically meaningful clusters depending on the purpose of their studies. The Japanese version of RIAS was used to evaluation of consultations in Japanese oncology setting by Ishikawa et al. (2002). In this study, we focused on the 23 items and added three items; silence, warning sign, and ask for perception about bad news, of the following behaviors for physicians; setting up the interview, medical and the other information given, active listening, and reassurance and empathic responses. The average Spearman correlation coefficients of each intra-coder were 0.86 and 0.82. The average Spearman correlation coefficient of inter-coder was 0.83, except for one item which showed the correlation coefficients were less than 0. Thus, we only analyzed 25 items.

Confidence in Communication with Patients. Confidence in communication with patients was assessed with a questionnaire consisting of 21 items by Baile et al. (1997). It measures the self-efficacy of communication skills in breaking bad news. All items were rated on a 10-point Likert scale from 1 to 10, ranging from "not at all" to "extremely." The previous studies had adopted this questionnaire to evaluate CST programs (Fujimori et al., 2003; Baile et al., 1997).

Burnout. The Maslach Burnout Inventory (MBI) is a well validated, self-administered, and a standardized instrument for evaluating burnout (Maslach & Jackson, 1986). The Japanese version of MBI was validated by Higashiguti et al. (1998). It consists of 22 items and three subscales: depersonalization (five items), personal accomplishment (eight items), and emotional-exhaustion (nine items). Each item was measured on a seven-point Likert scale ranging from 0 to 6 according to frequency with which feeling/attitudes are experienced.

Evaluation of the Workshop. Nine components of the workshop (lecture on communication skills, giving feedback to others, getting feedback from others, using role play, facilitators' general approach, facilitators' suggestion, simulated patients, scenarios, and relevance of the workshop to their own clinical practice) were evaluated. Each item was measured on a 11-point Likert scale from 0 to 10, ranging from "not at all" to "usefulness" (Fujimori et al., 2003).

Procedure

Before the workshop, participants were informed about this study and gave consent in writing for participant of this study. After that, they were required to participate in a simulated consultation in which they were asked to give the diagnosis of inoperable advanced cancer to a simulated-patient and to complete a pre-training survey regarding demographic characteristics, confidence in communication with patients, and MBI. Demographic characteristics included age, sex, marital status, specialty, clinical experience, and clinical experience in oncology. After workshop, participants were required to participate in a simulated consultation similar to the first, fill in the questionnaires consisted of confidence in communication, and evaluate the workshop. Three-months after the workshop, all participants were asked to answer a set of questionnaires that consisted of confidence and MBI.

Analysis

The scores of participants' possessed skill at pre-CST were compared using paired *t*-test with the scores at post-CST. We also estimated the confidence of participants and compared the rating score at pre-CST with post-CST and 3-months after CST using repeated measures analysis of variances (ANOVAs). When ANOVAs showed a significant difference, post hoc tests were performed. Each factor score of MBI was compared at pre-CST with 3-months after CST using t-test. The statistical analysis was used the SPSS 19.0 software.

RESULTS

Participant Characteristics

Sixteen oncologists participated in the workshop. Their characteristics were shown in Table 1.

Performance of Communicating Bad News

In each pair of bad news consultations, the score of 13 out of 27 categories of SHARE significantly increased, related to mainly "make consideration for how to deliver the bad news" and "provision reassurance and addressing the patients' emotion with empathic responses" (Table 2). In each participant, the mean of 9.7 skills were had higher score at the post-CST. In RIAS, the utterances assigned 11 of 25 categories significantly increased, related to "setting up interview," "reassurance and empathic responses," "medical and the other information giving," "reassurance and empathic responses," and "how to deliver the bad news" (Table 2). The utterances of each participant increased in the mean of 10.5 skills at post-CST.

Confidence for Communicating Bad News

All items of the confidence related to communication with patient of participants were significantly higher scores at post-CST than at pre-CST and maintained at the high level in 3-months after CST (Table 3).

Burnout

Compared with pre-CST, the mean score of all subscales at 3-months after CST decreased (emotional exhaustion: 11.64 ± 3.77 and 10.29 ± 3.75, respectively; $p = 0.04$, depersonalization: 18.60 ± 9.41 and 14.47 ± 9.48, respectively; $p = 0.08$, personal accomplishment: 33.13 ± 9.65 and 28.80 ± 12.66, respectively; $p = 0.01$).

Table 1. *Participant characteristics (N = 16)*

		Median (range), years	N	%
Age		36 (29–55)		
Clinical experience		10 (3.8–25.0)		
Clinical experience in oncology		8 (2.3–25.0)		
Sex	Male		11	68.8
	Female		5	31.3
Specialty	Digestive		7	43.8
	Thoracic		4	25.0
	Head & Neck		2	12.5
	Urology		1	6.3
	Gynecology		1	6.3
	Medical oncology		1	6.3

Table 2. *Mean Score of Total Peformances for Physicians During Consultations by Assessing SHARE and RIAS Categories*

	Pre-CST		Post-CST				% of physicians who improve the skill
	Mean	S.D.	Mean	S.D.	t	p	
SHARE categories							
Setting up the supporting environment of the interview	9.14	2.35	10.64	1.50	1.66	n.s. [a]	42.9
Greeting a patient cordially	2.79	1.84	3.71	1.07	2.06	* [b]	28.6
Looking at patient's eyes and face	3.50	0.94	3.86	0.53	1.16	n.s.	28.6
Taking sufficient time	2.85	1.35	3.07	1.21	0.42	n.s.	28.6
Make consideration for how to deliver the bad news	13.94	8.03	22.13	6.44	3.45	** [c]	85.7
Encouraging a patient to ask questions	2.43	1.74	2.43	1.60	0.00	n.s.	21.4
Not beginning bad news without preamble	1.50	1.55	4.00	0.00	6.01	**	85.7
Asking how much you know about patient's illness before breaking bad news	1.79	1.93	2.93	1.63	2.00	*	35.7
Not using technical words	2.64	1.44	3.21	0.97	1.85	*	42.9
Using actual images and test data	1.29	1.86	2.50	1.95	2.58	*	35.7
Writing on paper to explain	1.36	1.91	0.57	1.45	−1.32	n.s.	7.1
Checking to see that patients understand	1.43	1.55	2.64	1.82	2.46	*	64.3
Checking to see whether talk is fast-paced	0.57	1.45	1.78	1.71	2.08	*	50.0
Communicating clearly the main points of bad news	0.93	1.33	2.07	1.27	3.08	**	50.0
Discuss about additional information	14.64	3.71	16.21	2.83	1.13	n.s.	42.9
Answering patient's fully	3.50	1.16	3.71	0.83	0.59	n.s.	14.3
Explaining the status of patient's ilness	2.93	1.38	3.29	0.99	0.92	n.s.	42.9
Telling the prospects of cancer cure	3.86	0.36	3.07	1.54	−1.76	† [d]	14.3
Providing information on support services	0.00	0.00	0.14	0.53	1.00	n.s.	7.1
Discussing patient's daily activities and work in the future	1.29	1.33	1.29	1.64	0.00	n.s.	35.7
Explaining a second opinion	0.00	0.00	1.14	1.88	2.28	*	28.6
Checking questions	3.07	1.44	3.57	0.76	1.07	n.s.	35.7
Provision reassurance and addressing the patient's emotion with empathic responses	18.50	7.30	24.64	3.59	3.56	**	85.7
Asking about patient's worry and concern	0.86	1.46	2.07	1.69	2.19	*	64.3
Saying words to prepare mentally	1.57	1.91	3.29	1.14	3.12	**	57.1
Remaining silent for concern for patient feelings	1.36	1.82	2.29	1.49	1.87	*	57.1
Accepting patient's expressing emotions	2.43	1.45	3.50	0.76	2.90	**	71.4
Saying words that soothe patient feelings	2.79	1.42	3.21	1.25	1.31	n.s.	35.7
Telling in a way with hope	3.43	1.45	3.71	0.61	0.72	n.s.	14.3
Telling what patient can hope for	3.50	1.16	3.79	0.58	0.84	n.s.	21.4
Assuming responsibility for patient's care until the end	2.57	1.45	2.79	1.37	0.56	n.s.	35.7
RIAS categories							
Setting up the interview	1.93	0.92	2.71	1.44	1.92	*	42.9
Greeting/social conversation	1.93	0.92	2.71	1.44	1.92	*	42.9
Reassurance and empathic responses	14.90	8.97	22.93	9.21	2.64	*	71.4
Empathy	0.50	0.65	1.00	1.24	1.71	†	42.9
Show compassion for worry and concern	0.21	0.43	0.71	0.73	2.19	*	42.9
Reassurance	3.29	1.98	3.50	1.99	0.43	n.s.	35.7
Tell partnership	1.00	0.00	0.71	0.73	−0.84	n.s.	21.4
Show understanding	4.79	3.83	8.21	4.98	2.28	*	71.4
Show supportive response	2.00	3.21	4.93	7.12	1.89	*	42.9
Show concern for patient	0.71	0.99	1.50	1.88	1.71	†	35.7
Show respect/gratitude	0.14	0.53	0.00	0.00	−1.00	n.s.	0
Validation	1.07	1.07	1.21	1.19	0.38	n.s.	35.7
Silence	1.14	2.25	0.71	0.99	0.81	n.s.	21.4
Open-ended question about psychosocial feelings	0.14	0.53	0.43	0.65	1.17	n.s.	35.7
Medical and the other information giving	10.43	2.38	9.22	3.66	1.43	n.s.	28.6
Information giving about medical condition	3.93	1.28	5.00	2.63	1.41	†	71.4
Information giving about therapeutic regimen	5.43	1.99	3.07	1.38	−3.49	**	7.1
Information giving about psychosocial feelings	0.29	0.47	0.79	0.70	1.99	†	7.1

Continued

Table 2. *Continued*

	Pre-CST		Post-CST				% of physicians who improve the skill
	Mean	S.D.	Mean	S.D.	t	p	
Counseling and direction about medical condition/ therapeutic regimen	0.79	1.05	0.36	0.50	−1.47	†	14.3
How to deliver the bad news	9.50	4.54	16.79	5.42	3.90	**	92.9
Open-ended question about medical condition	0.50	0.94	1.64	0.93	5.55	**	78.6
Open-ended question about lifestyle	0.00	0.00	0.29	0.47	2.28	*	28.6
Counseling and direction	3.86	1.56	5.00	1.88	1.63	†	57.1
Ask for opinion	0.14	0.36	0.57	0.85	1.71	†	28.6
Ask for permission	0.71	1.14	0.86	1.03	0.38	n.s.	42.9
Ask for understanding	0.14	0.36	1.07	1.33	2.51	**	100
Ask for perception about bad news	0.43	0.51	1.00	0.78	2.83	**	100
Warning	0.43	0.65	1.21	0.80	3.29	**	100
Comfirm comprehension/inform exactly/rephrase	3.29	2.05	5.14	2.32	2.68	**	50.0

a: n.s.= not significant
b: *p < .05
c: **p < .01
d: †p < .10

Evaluation of the Workshop

Participants reported to form a high estimate (mean scores; 7.88–9.13) of all CST components (Table 4).

DISCUSSION

This study developed CST program based on patient preferences and the newly developed CST program seemed feasible and potentially effective and might be applied to medical education for physicians, especially in Japanese culture which are characterized by a family-centered communication style, an emotionally demanding patient preference and a little more 'paternalistic' physician-patient relationship (Fujimori et al., 2005; 2007; 2009).

Two assessment tools for performances, which are the SHARE as an assessment of impressions of participants' performances and the RIAS as an assessment of participants' utterances, showed the similar results. As we intended, our developed CST program might be strengthened in improving physicians' empathic responses and active listening skills. Especially, more than 70% of participants have improved performances of "not beginning bad news without preamble" and "accepting patient's expressing emotions" categories of SHARE, and "show understanding," "open-ended question about medical condition," "ask for understanding," "ask for perception about bad news," and "warning" categories of RIAS. Taken together with these results, the newly developed CST program might be expected for physicians to be able to provide an emotional support for patients, resulting in their reduce distress such as depression and anxiety.

In contrast, physicians' behaviors and utterances related to most categories of "discussing about additional information" of SHARE did not change between pre- and post-CST. One possible reason might be that participants of this study might have already had these communication skills, because the scores of "telling the prospects of cancer care" category of SHARE had been already rated high scores at pre-CST. Another possible reason might be that this program does not have insufficient effect on "providing information of support services" of SHARE. Most participants might not have enough knowledge about the psychosocial support services and daily activities. If so, it might be effective to add in the CST program a lecture of information which most patients had not possess.

All subjective confidence ratings about communication increased significantly after CST and maintained 3-months after it. This result showed that this CST program allowed participants to work on these areas in a manner that was inspiring confidence, and had an either equaling or surpassing efficacy on participants' confidence compared to our previous program which showed 18 of 21 items had improved after CST and maintained 3-months after CST (Fujimori et al., 2003).

As the results of participants' burnout, the emotional-exhaustion and depersonalization showed positive changes 3-months after CST, however the personal accomplishment also decreased significantly. This result did not replicate the result of our

Table 3. *Scores of the Participants' Self-Rating Confidence Scale for Communication with Patient*

	Pre-CST		Post-CST		3-months after CST				
	Mean	S.D.	Mean	S.D.	Mean	S.D.	F	p	Multiple comparison
Creating comfortable setting	4.13	2.07	7.20	1.47	7.20	1.97	15.59	** [a]	t1 [b]< t2 [c], t3 [d]
Assessing patient's ability to discuss bad news	4.93	2.02	7.07	1.39	7.27	1.28	17.94	**	t1 < t2, t3
Detecting verbal cues	5.13	1.77	7.20	1.32	7.73	1.28	21.95	**	t1 < t2, t3
Encouraging family presence	6.40	1.59	8.07	1.58	8.27	1.16	11.46	**	t1 < t2, t3
Assessing current knowledge	5.73	1.58	7.40	1.24	7.93	1.33	16.04	**	t1 < t2, t3
Detecting patient's anger	5.40	1.96	6.73	1.53	7.27	1.49	7.83	**	t1 < t2, t3
Including family in discussion	6.53	1.36	7.87	1.88	8.40	1.18	12.29	**	t1 < t2, t3
Detecting nonverbal cues	4.53	1.85	6.80	1.57	7.20	1.74	17.87	**	t1 < t2, t3
Assessing how much the patient wants to know	4.33	1.95	6.73	1.44	7.00	1.81	23.87	**	t1 < t2, t3
Detecting anxiety	4.40	1.55	6.73	1.49	7.13	1.51	28.06	**	t1 < t2, t3
Planning discussion in advance	5.73	1.58	7.73	1.94	8.07	1.71	17.50	**	t1 < t2, t3
Detecting patient's sadness	4.80	1.52	6.67	1.59	7.20	1.52	21.50	**	t1 < t2, t3
Confirming patient's understanding of cancer	5.00	1.65	7.13	1.46	7.67	1.45	20.43	**	t1 < t2, t3
Checking to see that information was received accurately by patient	4.73	1.62	6.87	1.55	7.53	1.46	26.05	**	t1 < t2 < t3
Providing information in small increments	4.87	1.85	6.47	1.73	7.53	1.36	18.33	**	t1 < t2 < t3
Avoiding medical jargon	5.80	1.66	7.33	1.88	8.07	1.33	13.00	**	t1 < t2 < t3
Reinforcing and clarifying information	5.80	1.37	7.40	1.64	8.13	1.19	15.48	**	t1 < t2 < t3
Responding empathetically to patient's feelings	5.27	1.67	7.47	1.46	8.27	1.10	27.95	**	t1 < t2 < t3
Planning a strategy for disclosing information	5.33	1.84	7.53	2.01	8.13	1.46	18.71	**	t1 < t2, t3
Handling patient's emotional reactions	4.33	1.72	7.13	1.55	7.40	1.30	28.80	**	t1 < t2, t3
Managing your own response to patient distress	4.50	1.83	7.07	1.44	7.21	1.37	30.33	**	t1 < t2, t3

a: **p < .01
b: t1 = Pre-CST
c: t2 = Post-CST
d: t3 = 3 months after CST

previous study which showed participants' emotional-exhaustion worsened 3-months after CST (Jenkins & Fallowfield, 2002) and this CST program was suggested improving the physicians' emotional-exhaustion and depersonalization, like the speculations in previous studies that physicians' burnout had decreased after CST (Baile et al., 1997; Ramirez et al., 1995). Although this study also cannot explain the reason why the participants' personal accomplishment for their job decreased 3-months after CST, it is possible that participants have intensified their attempts to be empathic with patients and realized that the consultations were more challenging. It might have to be assessed at longer follow-up to provide a more satisfactory explanation of the phenomenon.

Table 4. *Usefulness of the CST Program*

	Mean	S.D.	range
Diadic lecture on communication skills	7.88	1.67	5–10
Giving feedback to others	8.38	1.26	7–10
Getting feedback from others	8.94	1.12	7–10
Using role play	9.00	1.15	7–10
The facilitators' general approach	9.13	1.09	7–10
The facilitators' suggestion	9.13	1.09	7–10
Simulated patient	9.00	1.10	7–10
Scenarios	8.31	1.30	6–10
Relevance of the workshop to their own clinical practice	8.25	1.34	6–10

The participants evaluated the CST program fully positively on all components, suggesting that they were generally satisfied with the content, methodology, and facilitators of the workshop: a learner-centered model as well or better as our previous study (Fujimori et al., 2003). These results of this study showed the CST program suggested to useful to physicians.

Two limitations of this study should be noted. First, this preliminary study did not set up the control group and the participants are small because the aims of this study were development and feasibility evaluation of CST program based on patient preferences. Our next step study will perform randomized control trial, as the results of this study suggested a newly developed CST program was the feasible and potentially effective. Second, this study did not evaluate the impact of this CST program on patients' outcomes such as patients' distress and satisfaction. Future research efforts should be evaluated the patients' outcomes.

In conclusion, a newly developed CST program based on patient preferences is suggested being feasible and potentially effective on communication behaviors of oncologists, confidence in communicating with patients, and emotional exhaustion. A randomized control study to conclude the developed CST program is effective was needed further.

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ORIGINAL ARTICLE

Smoking status, service use and associated factors among Japanese cancer survivors—a web-based survey

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Abstract

Purpose This study aims to investigate smoking status and its associated factors among Japanese cancer survivors. We stretched our focus on association with health-related behaviors other than smoking (alcohol intake, physical exercise, and social activity) and the smoking cessation strategies used by cancer survivors.

Methods An anonymous cross-sectional web-based survey was conducted, enrolling survivors of various types of cancer up to 10 years after diagnosis. Smoking status, socioeconomic status, health-related behaviors other than smoking, and smoking cessation resource that the participants used were evaluated. Factors associated with continuous smoking after cancer diagnosis were explored using multivariate analysis.

Results Among 168 participants who were smoking at the time of cancer diagnosis, 96 participants (57.1 %) continued smoking. Sixty-seven survivors (69.8 %) were willing to reduce or quit smoking, however, only 39 survivors (40.6 %) were provided with counseling or intervention on smoking cessation. Male gender, shorter time after cancer diagnosis, and lack of regular physical exercise associated with continuous smoking. Higher level of fear of cancer recurrence had trend-level significance of association with smoking cessation.

Conclusions Substantial proportions of Japanese cancer survivors continue smoking after diagnosis of cancer. The majority of them are not provided with relevant information or support, despite their willingness of reducing or quitting smoking. Smoking cessation is associated with other health behaviors (i.e., physical exercise). This suggests considerable missed opportunities for health-care providers to provide cancer survivors with counseling and evidence-based interventions. Promotion of professional support on smoking cessation and education to encourage healthy behaviors are needed.

Keywords Cancer survivor · Smoking cessation · Risk factor · Health behavior · Exercise

Introduction

With advances in cancer detection and treatment, increasingly more attention has been paid towards care for cancer survivors. Lifestyle factors are potential means to improve cancer outcomes and quality of life among cancer survivors [1]. Smoking status especially has critical significance [2]. Continued smoking after cancer diagnosis is associated with poor response to cancer treatment [3, 4], increased morbidity and mortality [5,

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4] (both cancer related [6] and noncancer related [7]), increased risk of cancer recurrence and secondary cancer [8], and decreased quality of life [9, 10]. There is also evidence that smoking cessation leads to risk reduction of cancer relapse and increase of quality of life (QOL) [11].

In Japan, the smoking rate among general population is as high as 23.4 % (male, 38.2 %; female, 10.9 %); despite the rate is on gradual decrease. Smoking accounts for 19.5 % of cancer incidence and causes and 23.2 % of cancer death in Japanese population [12] and increases the rate of secondary cancer [13]. Studies on smoking among cancer survivors has been scarce in Japan, and they are limited to the studies that addressed small numbers of lung cancer patients who underwent cancer treatments [14, 15].

Although awareness of the risks associated with continued smoking is growing, the smoking rate of cancer survivors seems to be still high. According to the National Health Interview Survey 1998–2001 in the USA, the smoking rate of cancer survivors was estimated to be about 20 % and was not different from that of the general adult population. This trend is even more remarkable among younger population [16, 17]. The situation seems to be similar in Australia [18], UK [19], and other European countries [20, 21].

Despite there is good evidence that shows effectiveness of smoking cessation interventions among cancer survivors [22], relatively small proportion of survivors has been reported to be informed of useful resource (e.g., 42 % in US cancer survivors). Even smaller proportion of smoker survivors use those evidence-based treatments (33.5 % for pharmacotherapy and 3.8 % for behavioral treatment [23, 24]). Whether appropriate information and support on smoking cessation has been provided to cancer survivors is an important issue that needs to be explored.

For successful smoking cessation, behavioral and psychological issues should be considered. Affective and behavioral issues correlate with smoking cessation in the context that (1) several negative health behaviors, namely, inactivity, poor diet, and tobacco use share common risk factors [17], (2) substance use problems (nicotine and alcohol) frequently coincide, and (3) smoking can be a coping strategy to alleviate psychological distress [25]. However, these issues have not been well explored in cancer survivor population.

Therefore, the current study aimed to investigate smoking status and its associated factors among Japanese cancer survivors. We stretched our focus on association with health-related behaviors other than smoking (alcohol intake, physical exercise, and social activity), and the smoking cessation strategies used by cancer survivors.

Method

Participants

A cross-sectional, web-based survey was conducted as a part of the study to measure quality of life of community-dwelling cancer survivors. We aimed to recruit 600 cancer survivors using a stratified sampling method by gender (male/female=1:1) and time since cancer diagnosis (200 survivors each from the following three categories—within 2 years from cancer diagnosis, 2 to 5 years, and 5 to 10 years). The sample size was set as such because we considered 200 participants each was enough to illustrate difference in characteristics of each group, since a meta-analysis of supportive care needs surveys showed majority of past studies involved up to 200 participants [26]. Among these participants, we selected the participants who were smoking at their cancer diagnosis as our study sample.

Procedure

The survey was conducted during the period between December 7 and 13, 2012. The study was approved by the institutional review board of Tohoku University. We used a website-monitoring system called INTAGE research monitor, Inc. (http://intage.co.jp). In this system, approximately 1,300,000 people from any part of Japan were spontaneously registered. Among them, 2,059 participants were registered as age of 20 years or older and as being diagnosed of cancer within 10 years. Based on the past statistics of this monitoring system, we estimated the response rate as 66 %, therefore, we asked 300 candidate participants from each category (900 in total) to participate in the study, by sending an e-mail illustrating the details of the survey. The questionnaire was completely anonymous. Six hundred twenty-eight participants responded and completed the questionnaire (response rate, 69.7 %). Those who had never smoked or who had stopped smoking before the diagnosis of their cancer were excluded, and finally 168 survivors were identified as being a smoker at the time of their cancer diagnosis and were subjected to analysis (Fig. 1).

Measures

Smoking status

To evaluate smoking status, we adopted questions that have been used in the Japan Comprehensive Survey of Living Conditions (CSLC) 2007 [27]. The CSLC is a nationally representative cross-sectional survey of Japanese household members in Japan, which has been

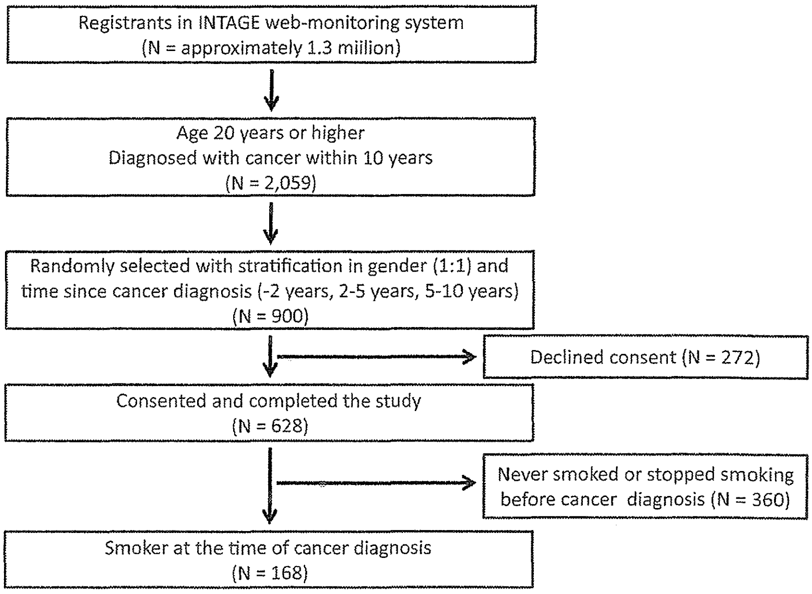

Fig. 1 Recruitment flow

conducted by the Ministry of Health, Labor and Welfare every 3 years. This questionnaire inquires current and past smoking habit, and willingness to quit smoking (for current smokers). The smoking status was classified into two categories: (1) cessation group at the time of survey (the participants who was smoking at the diagnosis of cancer but quitted afterward) and (2) continued smoking group (the participants who were smoking at the time of their cancer diagnosis, and had been smoking regularly until the time of survey).

Smoking cessation resources

The participants were inquired of whether and from whom they were provided with support for smoking cessation. The participants were asked to choose from the following five sources of support (multiple responses were allowed): (1) advice and/or support from their oncology staff, (2) advice and/or support from non-oncology medical staff, (3) smoking cessation clinic, (4) internet-based smoking cessation program, (5) other self-help resource, and (6) no resource used at all.

Other health behaviors

Alcohol consumption, physical activity, and participation in social activities were assessed using CSLC survey questionnaire [27], with minor modification of adding description of "before cancer diagnosis" and "after cancer diagnosis" to highlight change after cancer diagnosis. The participants were inquired whether they drink alcohol regularly, and how many units of alcohol they consume (if they drink regularly). We dichotomized the data according to the definition of hazardous drinking [28]. The participants were inquired of their physical activity level with the question "In your everyday life, do you intentionally exercise in order to promote/maintain your health?" They were asked to choose one response that best describes their condition from among the following five possible responses: (1) regularly, (2) sometimes, (3) stopped exercising after cancer diagnosis, (4) stopped exercising before cancer diagnosis, and (5) almost no habit of exercise since before cancer diagnosis. The participants were defined as "With no habit of regular exercise" when they endorsed 3, 4, or 5. The participants were provided with a list of social activities (e.g., hobby, physical exercise, job, training and education, art and creative works, community gathering, etc.) and were asked whether they had participated in any of them within one year before the survey. The participants were defined as "Not participating in social activities" when they denied participation in any of those activities.

Psychiatric morbidity

Psychiatric morbidity was assessed using the K6 scale, a self-rated six-item questionnaire that inquires frequency of psychological distress symptoms during the past 30 days. Each question has a five-point scale ranging from "none of the time" (0) to "all of the time" (4). The total K6 score ranges from 0 to 24, with higher scores indicating more severe psychological distress. A validation study of K6 demonstrated that the total score of 15 or higher indicates psychiatric

Table 1 Demographic background

Characteristics		*N*	Percentage
Demographic and social			
Age		Mean=58.9 (SD=11.9)	Range: [28–84]
Gender	Male	111	66.1
	Female	57	33.9
Marital status	Married	126	75.0
	Single or divorced/ widowed	42	25.0
Having child(ren)	No	41	24.4
	Yes	127	75.6
Single or cohabiting	Single	24	14.3
	Cohabiting	144	85.7
Employment	Unemployed	88	52.4
	Employed	80	47.6
Change in working status	Changed	91	54.2
	Not changed	77	45.8
Income	<4 million yen	67	39.9
	≥4 million yen	101	60.1
Clinical			
Primary cancer site	Head and neck	9	5.4
	Thyroid	5	3.0
	Lung	7	4.2
	Gastric	22	13.1
	Esophageal	15	8.9
	Hepatobiliary	4	2.4
	Colorectal	19	11.3
	Breast	25	14.9
	Prostate	21	12.5
	Other urological	11	6.6
	Gynecological	14	8.3
	Hematological	6	3.6
	Others	10	6.0
Time since cancer diagnosis	<2 years	51	30.4
	2–5 years	54	32.1
	6–10 years	63	37.5
Performance status	0	101	60.1
	1	62	36.9
	2	5	3.0

morbidity with stratum-specific likelihood ratios (SSLRs) of 16 (6.1–34) [29].

Fear of cancer recurrence

Fear of cancer recurrence was assessed using a single scale adopted from Quality of Life-Cancer Survivors Instrument (QOL-CS) [30, 31]. This scale measures fear of cancer progression in a 10-point Likert scale. The higher score indicates more intense fear of cancer progression. In the original validation study, Cronbach's alpha co-efficient of the whole scale was 0.93. The overall QOL-CS correlation coefficient with the Functional Assessment of Cancer Therapy scale (FACT-G) [32] was 0.78.

Perceived social support

Perceived social support was assessed with the short-version Multidimensional Scale of Perceived Social Support (MSPSS) [33, 34], a well-validated seven-item questionnaire that measures perceived social support on seven-point scales. The mean higher score indicates higher perceived social support. The scale has shown satisfactory internal consistency (Cronbach's alpha=0.85) and has criterion validity with

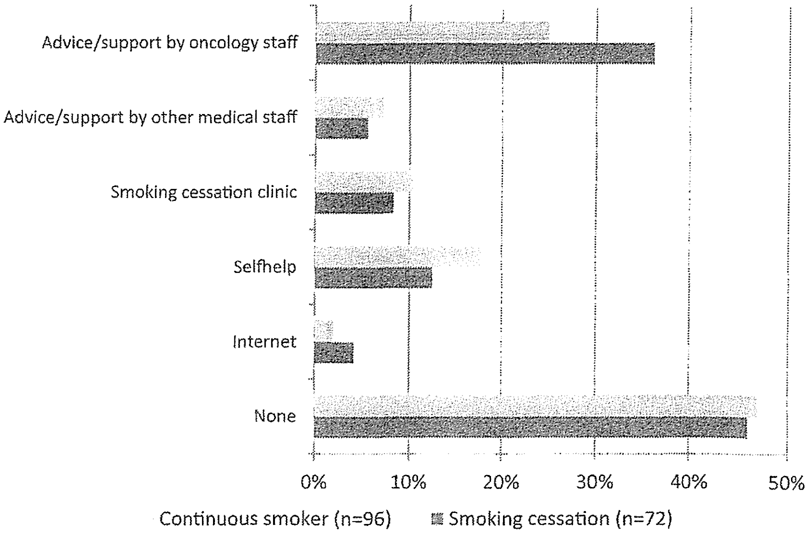

Fig. 2 Resources used for smoking cessation

General Health Questionnaire in a Japanese community-dwelling sample.

Demographic, socioeconomic, and medical characteristics

Background characteristics were collected, including gender [35, 36], age [37, 36], annual income (above or below four million Japanese Yen (national average annual income, approximately US\$40,000 or 30,000 €) [38], marital status [36], cancer type, and numbers of co-morbid conditions [39].

Statistical analysis

First, we conducted univariate analyses to screen differences between the continued smoking group and the cessation group. Chi-square tests were used for categorical variables and Mann-Whitney's tests were used for continuous variables, with a cutoff score of $p<0.2$. Then, we conducted multivariate analysis using logistic regression analysis to explore for associated factors. Variables that have consistently been reported to associate with smoking behaviors, namely, gender, age, marital status, income, and time after cancer diagnosis, were entered regardless of statistical significance in univariate analysis. The level of statistical significance was set at $p<0.05$ (two-tailed). All analyses were conducted using SPSS version 21.0 IBM.

Results

Characteristics of the participants

Characteristics of the participants are shown in Table 1. The participants' mean age was 58.9 (SD=11.9). The majority of the participants were male (66.1 %). Breast, gastric, and prostate cancer were the top three cancer groups. Most of the participants were in good performance status (≥1).

Smoking status

Of the 168 participants who were smoking at the time of cancer diagnosis, 96 survivors (57.1 %) were still smoking at the time of the survey. Of these 96 continued smokers, 67 survivors (69.8 %) were willing to cut down ($n=30$; 31.2 %) or to quit smoking ($n=37$; 38.5 %).

Smoking cessation resource

Among all the participants, only 39 survivors (40.6 %) had been provided by medical providers with advice or support for smoking cessation. Seventeen survivors (17.7 %) used self-help. Forty-five survivors (46.9 %) did not receive any resource for smoking cessation (Fig. 2). Cessation group were more likely to be provided with advice and/or support by oncology medical staff, than continuous smokers (36.1 vs. 25.0 %; $p=0.12$).

Factors associated with smoking cessation after cancer diagnosis

In univariate analyses, marital status (single, widowed or divorced), shorter time after cancer diagnosis, lack of habit of regular physical exercise, lack of participation in social activities, hazardous drinking, lower level of fear of recurrence, and lack of advice on smoking cessation by oncology staff were extracted as possible associated variables for continued smoking ($p<0.2$; shown in Table 2). The logistic regression analysis demonstrated that male gender, shorter time after cancer diagnosis, and lack of regular physical exercise were significantly associated with continuous smoking after

Table 2 Proportion of smoking cessation and continues smoking group

		Smoking cessation		Continued smoking		*p*
		n	%	*n*	%	
Demographic and social variables						
Gender	Male	47	42	64	58	0.85
	Female	25	44	32	56	
Age	<60	37	41	54	59	0.53
	≥60	35	45	42	55	
Marital status	Married	59	47	67	53	0.07
	Single/divorced/widowed	13	31	29	69	
Having child(ren)	No	15	37	26	63	0.35
	Yes	57	45	70	55	
Single or cohabiting	Single	10	42	14	58	0.90
	Cohabiting	62	43	82	57	
Current working status	Currently not working	40	45	48	55	0.48
	Currently working	32	40	48	60	
Change in work status	Changed	40	44	51	56	0.75
	Not changed	32	42	45	58	
Income	<4 million yen	31	46	36	54	0.47
	≥4 million yen	41	41	60	59	
Clinical variables						
Primary cancer site	Gastric-esophageal	19	51	18	49	0.26
	Colorectal	10	53	9	47	
	Breast	13	52	12	48	
	Prostate	8	38	13	62	
	Others	22	33	44	67	
Time after diagnosis	<2 years	14	27	37	73	$p<0.01$
	2–5 years	22	41	32	59	
	5–10 years	36	57	27	43	
Performance status	0	42	42	59	58	0.75
	1 or 2	30	45	37	55	
Comorbidities	None	29	40	44	60	0.53
	Present	43	45	52	55	
Affective and behavioral variables						
Psychiatric morbidity (K6≥15)	None	52	45	63	55	0.36
	Present	20	38	33	62	
Fear of cancer recurrence	Low	29	34	56	66	0.02
	High	43	52	40	48	
Perceived social support	Low	40	41	58	59	0.53
	High	32	46	38	54	
Regular physical exercise	None	21	33	43	67	0.04
	Yes	51	49	53	51	
Social activities	None	17	35	32	65	0.17
	Yes	55	46	64	54	
Regular alcohol intake	None	29	48	32	52	0.35
	Yes	43	40	64	60	
Hazardous drinking	No	35	44	45	56	0.20
	Yes	8	30	19	70	
Advice/support by oncology staff for smoking cessation	No	46	39	72	61	0.12
	Yes	26	52	24	48	
Participation in cancer support group	Never	67	42	92	58	0.5
	Yes (current/ past)	5	56	4	44	

cancer diagnosis. In addition, lower level of fear for cancer recurrence has a trend-level association with continuous smoking. The model explained 27.1 % of the variance (Table 3).

Discussion

This web-based study demonstrated that substantial proportion (57.1 %) of Japanese cancer survivors continue smoking even after diagnosis of cancer, and only small proportion of them are provided with appropriate support for smoking cessation. Male gender, shorter time after cancer diagnosis, and lack of habit of regular physical exercise are predictors for continuation of smoking after cancer diagnosis.

High rate of continuous smoking is consistent with past studies in other countries and in different cancer situations (23–42.9 %)[16, 18, 40] . A notable gap was found between large proportion of smoker survivors who are willing to cut down smoking (approximately 70 %) and small proportion of survivors who received support for smoking cessation (approximately 40 %). Provision of support was considerably lower than those reported in past studies (63 to 74 %) [41, 42, 24, 43], warranting further intervention in Japan.

As we hypothesized, cancer survivors' health behavior, more specifically, habit of regular physical exercise, was associated with higher probability of smoking cessation. Habit of regular physical exercise may be a representation of cancer survivors' awareness toward healthier behaviors in general, and/or may be working as an alternative stress-coping strategy that replaces smoking. Considering that higher level of fear of cancer recurrence had trend-level association with smoking cessation, we assume that high level of fear of cancer recurrence contributed to high awareness toward good health behaviors, which lead to smoking cessation and regular exercise. Psycho-behavioral smoking cessation programs usually start with raising the motivation of participants. Providing personalized information on the risk of cancer progression/relapse and how smoking and smoking cessation can influence it, can be the vital first step for smoking cancer survivors. Also, our results suggest research implication for combining smoking cessation program with promotion of other healthy behaviors such as exercise. Health counseling, including information provision on cancer prognosis and promotion of healthy behaviors, should be considered as an important aspect of care and should be remunerated.

As opposed to past studies [19, 44], male gender associated with continued smoking. One attributable reason is the age difference between the male (mean age=60s) and female (mean age=40s) survivors in our sample. The male participants are likely to have longer history of smoking compared with female participants, although we have not obtained detailed smoking history. Another possible reason is due to the difference in study settings between our study and past studies. Our study is a cross-sectional observational study, while the findings that women are less likely to quit smoking mostly came from interventional studies. Success rate in a smoking cessation program is different from a naturalistic study where patients may or may not participate in smoking cessation programs are different. In fact, in our study, female survivors were more likely to have used smoking cessation clinic (15.8 vs 6.3 %, p=0.056).

The smoking cessation rate increased as time passed after cancer diagnosis, which is consistent with past studies [45]. Medical providers should not hold negative attitudes toward

Table 3 Associated factors for continuous smoking after cancer diagnosis

	B	S.D.	Wald	p	OR	95 % CI	
						Lower	Upper
Age <60	0.69	0.54	1.63	0.20	1.99	0.69	5.74
Male gender	1.47	0.62	5.69	0.02	4.36	1.30	14.6
Married	−0.69	0.62	1.25	0.26	0.50	0.15	1.69
Income (<4 million yen)	−0.02	0.49	0.001	0.98	0.99	0.38	2.55
Time after cancer diagnosis (reference, 5–10 years)			5.21	0.07			
<2 years	1.23	0.60	4.19	0.04	3.42	1.05	11.11
2–5 years	0.91	0.54	2.86	0.09	2.49	0.87	7.16
Regular physical exercise	−1.21	0.57	4.53	0.03	0.30	0.10	0.91
Social activities	0.66	0.58	1.31	0.25	1.94	0.62	6.05
Hazardous drinking	0.66	0.59	1.27	0.26	1.94	0.61	6.13
Advice/support by oncology staff	−0.24	0.51	0.22	0.64	0.79	0.29	2.13
Fear of cancer recurrence	−0.14	0.08	3.061	0.08	0.87	0.74	1.02
Constant	−0.24	1.05	0.05	0.82	0.79		

cancer survivors who are smoking at one time point. Rather, those survivors should be viewed as struggling their way to quit smoking. They should be provided with continuous advice and support, since repetitive advice has been proven to help smokers succeed in cessation [46].

"Teachable moments" of smoking cessation for cancer patients include instances such as on cancer screening [47], on cancer diagnosis, before surgery [48], during hospitalization and on discharge [49]. Considering that only a small proportion of our participants have ever received advice or support from oncology staff, any opportunity listed above can be a good opportunity. Since it is not realistic for Japanese oncologists to provide smoking counseling due to their heavy case load, multidisciplinary approach is essential.

Strengths and limitations

The strengths of this study include enrollment of participants with well-balanced distribution of time since their cancer diagnoses, use of web-based questionnaire, and consideration of health behaviors other than smoking. Use of web-based survey is advantageous in that genuine anonymity is guaranteed. This minimizes the risk of reporting bias, because, if this kind of study were conducted in a medical facility, participants might not report their unhealthy behaviors honestly to the researchers who have possible connection with medical providers.

Use of web-based questionnaire can also be a limitation due to insufficient representativeness of the sample. The participants only consist of cancer survivors with internet literacy and with relatively good performance status. Other limitations include skewed distribution of type of cancer (higher proportion of breast and prostate cancer and lower proportion of lung cancer, even if compared with Japanese cancer survivor population [50]), clinical information being based upon patient report, lack of detailed smoking history, and lack of information on participants' readiness to change their behaviors (motivation and self-efficacy). The cross-sectional design cannot tell causal relationships.

Despite these limitations, the current study is worthy of reporting because research on this topic has been scarce in Japan and even in other Asian countries [51, 52]. The study is also unique in that it assessed cancer survivors' health behaviors as well as relevant service use.

Conclusion

This web-based survey demonstrated that substantial proportions of Japanese cancer survivors continue smoking after diagnosis of cancer. Majority of them are not provided with relevant information or support, despite their willingness to reduce or quit smoking. This suggests considerable missed opportunities for health-care providers to provide cancer survivors with counseling and evidence-based interventions. The current study also illuminated populations who are at higher risk of continuing smoking after cancer diagnosis, especially in regard with other health behaviors. Further promotion of education and support to encourage healthy behaviors is needed.

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Effectiveness of Japanese SHARE model in improving Taiwanese healthcare personnel's preference for cancer truth telling

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Abstract

Background: **Communication skills training (CST) based on the Japanese SHARE model of family-centered truth telling in Asian countries has been adopted in Taiwan. However, its effectiveness in Taiwan has only been preliminarily verified. This study aimed to test the effect of SHARE model-centered CST on Taiwanese healthcare providers' truth-telling preference, to determine the effect size, and to compare the effect of 1-day and 2-day CST programs on participants' truth-telling preference.**

Method: **For this one-group, pretest–posttest study, 10 CST programs were conducted from August 2010 to November 2011 under certified facilitators and with standard patients. Participants (257 healthcare personnel from northern, central, southern, and eastern Taiwan) chose the 1-day ($n = 94$) or 2-day ($n = 163$) CST program as convenient. Participants' self-reported truth-telling preference was measured before and immediately after CST programs, with CST program assessment afterward.**

Results: **The CST programs significantly improved healthcare personnel's truth-telling preference (mean pretest and posttest scores ± standard deviation (SD): 263.8 ± 27.0 vs. 281.8 ± 22.9, $p < 0.001$). The CST programs effected a significant, large ($d = 0.91$) improvement in overall truth-telling preference and significantly improved method of disclosure, emotional support, and additional information ($p < 0.001$). Participation in 1-day or 2-day CST programs did not significantly affect participants' truth-telling preference ($p > 0.05$) except for the setting subscale. Most participants were satisfied with the CST programs (93.8%) and were willing to recommend them to colleagues (98.5%).**

Conclusions: **The SHARE model-centered CST programs significantly improved Taiwanese healthcare personnel's truth-telling preference. Future studies should objectively assess participants' truth-telling preference, for example, by cancer patients, their families, and other medical team personnel and at longer times after CST programs.**

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Introduction

Truth telling is a common but difficult clinical task for doctors, and it can only be gradually improved through training. The most renowned current standardized communication skills training (CST) program is the US SPIKES model [1,2]. The SPIKES model, developed at the US.MD Anderson Cancer Center and based on CST, suggestions from experts, and a literature review [2], was designed to train oncologists to break bad news about cancer [1,2]. The model proposes a truth-telling procedure in six steps: setting (setting up the interview), perception (assessing the patient's perception), invitation (obtaining the patient's invitation), knowledge (giving knowledge and information to the patient), empathy (addressing patient emotions with empathy), and strategy and summary (summarize treatment plan if patient is ready) [1]. Truth telling is usually implemented in approximately 60 min. Since this model was proposed in 2000, it has been widely used in Western countries [1] such as the US and Europe. Furthermore, its effectiveness has been verified in the US [3–5], the UK [6,7], Germany [8], Japan [9,10], and China [11].

However, truth telling in Western countries is influenced by an emphasis on patient autonomy, which is significantly different from the family-centered truth-telling culture in Asian countries [11]. Therefore, the Japan Psycho-Oncology Society (JPOS) developed the SHARE model on the basis of studies of cancer patients' preferences for truth telling [12,13]. The SHARE model emphasizes four important dimensions of truth telling: supportive environment, how to deliver bad news, additional information, and reassurance and emotional support [12]. The last dimension (reassurance and emotional support) is particularly emphasized throughout the SHARE model-centered truth-telling process to reflect cancer patients' preferences [12,13]. Implementing SHARE truth telling takes approximately 10–15 min. Only a preliminary study has verified the SHARE model [14], but it may meet the needs for developing CST in Taiwan better than the SPIKES model because Japanese culture is similar to Taiwanese folk customs, and its shorter time to implement truth telling conforms better to Taiwan's busy medical environment. The SHARE model is currently used as the education model for CST not only in Taiwan but also in several major cities in South Korea and China (e.g., Beijing and Xian). The SHARE and SPIKES truth-telling models are compared in Table 1.

To develop a good truth-telling technique, doctors, including clinically experienced attending physicians, must receive periodic training in standardized communication skills. To date, no large-scale study has verified the effectiveness of SHARE model-centered CST. To fill this gap in knowledge, the authors conducted this study for the following reasons: (i) to test the effect of Japanese SHARE model-centered standardized CST on Taiwanese healthcare personnel's preference for truth telling; (ii) to determine the size of this effect; and (iii) to compare the effect of 1-day and 2-day CST programs on participants' truth-telling preference.

Methods

Design and participants

This one-group pretest–posttest study was part of a larger project undertaken by the Taiwan Psycho-Oncology Society (TPOS) to promote CST programs to improve the level of oncologists' truth telling in Taiwan. The study was approved by the institutional review board of Chang Gung Memorial Hospital (101-1173C) to hold 10 CST programs led by certified facilitators using standard patients from September 2010 to November 2011. The TPOS informed all hospitals in Taiwan about the CST (the purpose, time, place, and registration information). This information was also published on the TPOS website and at its annual meeting. Participants were 257 healthcare personnel from northern, central, southern, and eastern Taiwan. The majority of participants was doctors ($n = 143$, 57.4%) and had signed up to participate because of personal interest ($n = 180$, 70%).

Communication skills training programs

The SHARE model used in our study was developed by TPOS in collaboration with JPOS. The SHARE CST was translated into Chinese and used in intensive training of healthcare personnel (at least 50 h of CST, train-the-trainer workshops, facilitator workshops, and facilitator internships). Some translated sentences were also modified to more closely reflect Taiwanese culture. For instance, 'Let's fight this together' was changed to 'Let's work together.' The first 22 facilitators trained by the TPOS were assessed by Dr. Fujimori (main developer of the SHARE model) and Dr. Fang (last author and head of the TPOS) and awarded Taiwan–Japan certificates.

Table 1. Comparison of the SPIKES and SHARE models

	SPIKES	SHARE
Institute where developed	MD Anderson Cancer Center, USA	Japan Psycho-Oncology Society and National Cancer Center Hospital East, Japan
Year developed	2000	2007
Basis for development	Literature search and expert input	Patients' preferences for truth telling
Core values	Patient autonomy, order of truth telling, and providing detailed information	Confucian-based values of Asian culture and reassurance and emotional support for patients and their families during truth telling
Training period	3–5 days	1–2 days
Instructor/trainee ratio	One instructor/five trainees	Two instructors/four trainees (instructors: one expert in psychology and one expert in oncology)
Types of cancer in training materials	$n = 5$ (breast cancer, prostate cancer, lymphoma, lung cancer, and melanoma cancer)	$n = 26$ (trainees choose to engage in role play according to the type of cancer role play)
Teaching methods	Didactic lessons and role play	Didactic lessons and role play
CST-related empirical studies	Verified by many studies	Verified by a preliminary study
Time to execute truth telling	Approximately 60 min	Approximately 10–15 min
Countries where used	Europe, USA, and China	Japan, Taiwan, South Korea, and China

CST, communication skills training.