

# Psychological Factors and Characteristics of Recurrent Breast Cancer Patients with or without Psychosocial Group Therapy Intervention

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**To clarify psychological factors of patients with recurrent breast cancer, we examined their interest in group intervention and studied the characteristics of participants and non-participants in an intervention program. Using several self-administered assessment scales to evaluate the quality of life (QOL) of cancer patients and the symptoms specific to breast cancer patients, we compared sociomedical variables and QOL scores between participants and non-participants. Inter-group differences were significant in the scores for constipation, body image and future perspectives, suggesting the QOL to be higher among participants than non-participants. Interest in group intervention was identified as a major reason for participation in this type of program. Not only physical but also psychological factors were shown to be the reasons for deciding not to participate in group intervention. It is now desirable that efforts be made to stimulate greater understanding of group intervention as a means of psychosocial support for patients with recurrent breast cancer and that social environments be arranged so that these patients are supported by an approach tailored to individual cases, involving both group and individual intervention.**

**Key words:** participant and non-participant; psychological factor; psychosocial group intervention; recurrent breast cancer patient

It is essential to nurse individual cancer patients in terms of not only their physical problems but also in terms of psychological factors. For patients with cancer, we have aimed at psychosocial intervention for reducing psychological stress and raising the Quality of Life (QOL), and performed studies to test the effectiveness of psychosocial group intervention (Goodwin et al., 2001; Fukui et al., 2001). In studies on breast cancer patients, 40% to 80% of eligible patients were enrolled (Spiegel et al., 1981; Edmonds et al., 1999; Goodwin et al., 2001). Several previous studies compared the characteristics of patients participating in the studies to those not participating in an attempt to examine the clinical

applicability of psychosocial group intervention.

In Western countries, cancer patients who gave consent to group intervention were suffering from some psychosocial problems other than depression (Taylor et al., 1986; Berglund et al., 1997), desired to explore or experience support services (Taylor et al., 1986; Bauman et al., 1992), were encouraged by medical staff (Taylor et al., 1986), expected mutual support (Thiel de Bocanegra, 1992), and had the following characteristics: below the age of 50, unmarried (Bauman et al., 1992), middle class, predominantly female (Taylor et al., 1986) and recently diagnosed with cancer (Thiel de Bocanegra, 1992).

Abbreviations: EORTC, European Organization for Research and Treatment of Cancer; QLQ-Br23, QOL questionnaire-breast cancer module 23; QLQ-C30, QOL questionnaire-cancer 30; QOL, quality of life

As to the characteristics of Japanese patients with breast cancer who participated in group intervention, some investigators reported that many had surgery within the previous 12 months, had strong anxiety and were between 50 and 65 years of age (Fukui et al., 2000). However, no such survey has been conducted on patients with recurrent or metastatic cancer, which has a particularly strong impact and causes patients considerable psychological stress (Okamura et al., 2000).

The present study was undertaken to analyze the interest of patients with recurrent breast cancer in psychosocial group intervention and to analyze the characteristics of these patients. They were divided into 2 groups, intervention participant and non-participant. We anticipate that the results of this study will contribute to raising the QOL of patients with recurrent breast cancer and promoting group intervention for patients with this type of cancer.

## Subjects and Methods

Of the patients with recurrent breast cancer followed-up at the Department of Surgery of the National Hospital Organization Shikoku Cancer Center who were diagnosed 3 to 12 months previously, those who satisfied the following requirements were rated as eligible for this study: i) adult women over 20 years of age, ii) patients with histologically established breast cancer which showed histological and/or clinical recurrence, iii) women who had not developed recurrence before, iv) women for whom information on recurrence had been disclosed, v) patients whose general condition was not severe, vi) patients without active double cancer, vii) patients not requiring psychiatric treatment of depression, adjustment disorder, etc. and viii) patients able to understand the purpose of the study without difficulty.

A request to participate in the study was made to each candidate between 2002 and 2003 at the National Hospital Organization Shikoku Cancer Center. In a room that allowed protection

of individual privacy, each patient was asked in the absence of other patients to participate in the study after having been informed of the design of the study.

After access to the medical records of patients was approved by the National Hospital Organization Shikoku Cancer Center, we selected patients satisfying the inclusion criteria. Of the patients rated as eligible to participate in the study, those who were interested in group intervention and gave written consent to participate in all 6 sessions of intervention (once a week for 6 weeks) were assigned to the intervention group. Of the patients who decided not to participate in group intervention, those who had an interest in intervention and gave consent to answering the questionnaire were assigned to the non-intervention group, and those who agreed to an interview but did not consent to answering the questionnaire survey were assigned to the refusal group.

In the present study, group intervention was carried out by 2 group leaders (a nurse and a psychiatrist both experienced in group therapy). One group was composed of 4 to 8 patients. Six group intervention sessions, each lasting 90 min, were held (1 session/week). Each session included 20 min of teaching about how to cope with stress related to psychosocial problems of individual patients with recurrent breast cancer and how to resolve these problems, 50 min of discussion about coping and 20 min of learning about progressive muscle relaxation.

## Variables evaluated

### *Sociomedical variables*

Information about age, performance states (criteria determined by the Eastern Cooperative Oncology Group), date of diagnosis of recurrence, disease-free period and history of cancer treatment was collected from medical records combined with the responses to the questionnaire. The following information was entered by each patient into the self-administered questionnaire: educational history, disease history, occupation, marital status,

psychological status, occupational status and the date they went to the hospital.

## **QOL**

**Profile of mood states:** The profile of mood states is a self-administered assessment scale for temporary emotional states composed of 65 items (McNair, 1971). It allows evaluation of 6 emotional states (tension-anxiety, depression-dejection, anger-hostility, vitality, exhaustion and confusion) and the total mood disturbance. The reliability and validity of its Japanese version have also been verified (Yokoyama et al., 1990).

**Impact of event scale-revised:** Impact of event scale-revised (Weiss and Marmar, 1997) is a self-administered scale for assessment of the influence of mental trauma. It is composed of 22 items. This scale was a modification of the impact of event scale (Horowitz, 1979). It allows evaluation of the subscales of the 2 conventional categories (symptoms of intrusion and avoidance) plus a new category (over-arousal), and the reliability and validity of its Japanese version have been verified (Asukai et al., 2002).

**Mental adjustment to cancer scale:** The mental adjustment to cancer scale (Watson et al., 1988) is a self-administered scale for assessment of the psychological attitudes of individuals to cancer, composed of 40 items. It is composed of 5 items (fighting spirit, hopelessness, anxious preoccupation, fatalism and avoidance). It evaluates individual patients from 2 aspects: i) evaluation of psychological responses to the diagnosis of recurrent cancer, and ii) patient's recognition of the cancer and actions she took to alleviate the threat. The reliability and validity of its Japanese versions have been verified (Akechi et al., 2000).

**EORTC QLQ-C30/Br23:** European Organization for Research and Treatment of Cancer QOL Questionnaire-Cancer 30/Breast cancer module 23 (EORTC QLQ-C30/Br23) is a 53-item self-administered scale for evaluation of the physical, psycho-

logical and social QOL of patients with breast cancer, composed of a combination of EORTC QLQ-C30 (a 30-item scale for evaluation of the QOL of cancer patients) and EORTC QLQ-Br23 (a 23-item scale for evaluation of symptoms specific to breast cancer patients).

EORTC QLQ-C30 (Aaronson et al., 1993) is a self-administered assessment scale. It is composed of 30 items, i.e., subscales of function of cancer patients (physical function, role-playing function, emotional function, social function and cognitive function), symptom scales, comprehensive health/QOL, economic impulses and symptoms (difficulty breathing, sleep disorder, appetite, diarrhea and constipation). The reliability and validity of its Japanese version have been analyzed (Kobayashi et al., 1998), and the reliability and validity of the English version in patients with metastatic breast cancer have been tested (Kobayashi et al., 1998).

EORTC QLQ-Br23 (Sprangers et al., 1996) is a 23-item self-administered scale for assessment of patients with breast cancer. The EORTC has authorized the use of its Japanese version (EORTIC Group for research into Quality of Life, [http://groups.eortc.be/qol/questionnaires\\_downloads.htm](http://groups.eortc.be/qol/questionnaires_downloads.htm)).

**Rosenberg self-esteem scale:** This is a 10-item self-administered scale for assessment of self-esteem (Rosenberg, 1965) designed to allow subjects to evaluate their own degree of self-esteem and self-value. Differences in scores are considered to reflect differences in cognition and behaviors. The reliability and validity of its Japanese version have been verified (Suga, 1984).

**General self-efficacy scale:** This is a 16-item self-administered scale for assessment of general self-efficacy during one's daily life (Sakano and Tojo, 1986). They subsequently tested its reliability and validity. This scale is designed to evaluate the confidence of individuals in the extent to which they can appropriately take an action needed to achieve a given goal.

***Degree of satisfaction with social support and degree of information provided:*** The degree of satisfaction with social support and the degree of information provided were measured by the Likert scale from 1 to 4.

***Interest and reasons for participation/non-participation in group intervention***

When being asked to participate in this study, patients were interviewed on why they wanted to participate or not participate, what knowledge they had about group intervention and their awareness of their stress level at that time, and what their interest and reasons were for their participating or not participating in group intervention.

***Analyses***

***Comparison of baseline data among the intervention, non-intervention and refusal groups***

For sociomedical variables that allowed comparison among the 3 groups, one-way analysis of variance was conducted after confirming data distribution. In comparison of sociomedical variables and scores on each scale between the intervention and the non-intervention groups, we used either the chi-square test or the *t*-test (after checking for regularity of data).

In all tests,  $P < 0.05$  (both sides) was regarded as statistically significant. The Statistical Package for the Social Sciences, version 11.5J (SPSS Japan, Tokyo, Japan) was used for all statistical analyses.

***Analysis of interest in the intervention and psychological factors in determining the intervention***

In the interviews with patients, they variously expressed their motives for intervention. First, we arranged their self-expressions into several groups by similarity. Next, we analyzed the self-expressions by groups to designate categories with more popular sounding names. Whole responses were classified into several categories. Then, the percentage of a category was calculated by dividing the number of entry subjects allocated to the given category by the whole number of subjects.

***Ethical considerations***

This study was performed in accordance with its protocol after approval was obtained from the Ethics Committee of the National Hospital Organization Shikoku Cancer Center, enrolling only those patients who gave informed consent in writing. Each candidate was well informed as to the study design and purpose through a pamphlet containing the following information: i) the patient can consent or refuse participation in the study at her own discretion; ii) the patient will suffer no disadvantage related to her care even if she does not participate in the study; iii) the personal information of the patient will not be disclosed when the results of the study are published; iv) the patient's visits to the clinic for the purpose of this study may place physical stress on the patient and v) discussions during group intervention or surveys using scales for psychological aspects may cause discomfort or stress to the patient. Efforts were thus made to obtain consent from patients after providing adequate explanatory information.

***Results***

***Participation in the study***

During the enrollment period, there were 80 patients who had developed recurrence of breast cancer for the first time 3 to 12 months previously. Of these patients, 58 eligible subjects referred by their attending physicians were well informed about the study. Twenty-eight patients (48%) gave written consent to participate in group intervention. Of the 30 patients (52%) who refused to participate in group intervention, 11 had an interest in group intervention and gave written consent to cooperate with the self-administered questionnaire survey to be conducted at 3 time points.

***Comparison of characteristics between participants and non-participants***

Among the intervention, non-intervention and refusal groups, we compared sociomedical vari-

**Table 1. Characteristics of group participants and non-participants**

		Intervention group [n = 28]	Non-intervention group [n = 11]	Refusal group [n = 19]	P
Age (yr)		53.57 ± 12.91	57.18 ± 10.20	55.58 ± 10.00	0.65
Post-recurrence period (mo)		7.14 ± 3.30	6.09 ± 3.30	7.84 ± 3.39	0.38
Disease-free period	≤ 24 mo	12	4	4	
	> 24 mo	16	7	15	0.30
Chemotherapy ongoing treatment	Present	16	6	9	
	Absent	12	5	10	0.80
Performance status†	0	19	8	11	
	≥ 1	9	3	8	0.66
Marital status	Married	18	9		
	Single/divorced/widowed	8	2		0.68
Educational history	≤ 12 yr	16	4		
	> 12 yr	10	7		0.27
History of psychiatric treatment	Present	3	0		
	Absent	23	11		0.54
Time needed to get to hospital	≤ 30 min	13	2		
	> 30 min	13	9		0.14
Occupation status	Present	8	4		
	Absent	18	7		1.00
Profile of mood states	Tension-anxiety	10.85 ± 5.84	13.91 ± 8.35		0.20
	Depression-dejection	13.73 ± 9.89	17.73 ± 16.64		0.47
	Anger-hostility	9.08 ± 7.28	10.91 ± 13.51		0.67
	Vitality	11.58 ± 5.58	11.00 ± 7.84		0.80
	Exhaustion	9.00 ± 6.59	10.82 ± 8.68		0.49
	Confusion	9.24 ± 5.41	11.82 ± 6.97		0.31
	Total mood disturbance	40.73 ± 34.77	54.18 ± 57.89		0.48
Impact of event scale-revised		18.65 ± 13.76	25.91 ± 12.81		0.14
Mental adjustment to cancer	Fighting spirit	46.50 ± 6.91	48.09 ± 6.66		0.52
	Hopelessness	10.08 ± 3.59	12.45 ± 5.43		0.20
	Anxious preoccupation	23.12 ± 4.62	25.36 ± 2.87		0.14
	Fatalism	19.96 ± 4.94	23.00 ± 4.12		0.08
	Avoidance	1.77 ± 0.77	1.82 ± 1.40		0.91
QLQ-C30/Br23‡	Comprehensive health/QOL	65.69 ± 21.43	60.09 ± 17.87		0.45
	Physical function	77.96 ± 14.92	69.64 ± 22.61		0.09
	Role-playing function	76.35 ± 23.59	78.73 ± 22.49		0.90
	Emotional function	78.27 ± 18.31	75.09 ± 20.06		0.56
	Cognitive function	70.5 ± 25.07	65.27 ± 18.73		0.07
	Social function	77.62 ± 16.19	69.73 ± 29.60		0.88
	Fatigue	38.73 ± 25.08	49.45 ± 21.54		0.86
	Vomiting	3.38 ± 11.82	6.00 ± 13.35		0.37
	Pain	23.08 ± 22.59	22.73 ± 25.05		0.96
	Difficulty breathing	24.27 ± 27.60	21.27 ± 30.95		0.38
	Sleep disorder	16.54 ± 19.35	12.09 ± 22.49		0.94
	Appetite	24.23 ± 25.91	27.18 ± 32.74		0.49
	Diarrhea	17.85 ± 25.31	15.00 ± 17.23		0.33
	Constipation	3.85 ± 14.41	15.09 ± 22.92		< 0.01**
	Economic impulses	30.73 ± 29.79	30.27 ± 40.73		0.17
QLQ-C30/Br23‡	Body images	36.54 ± 23.36	62.82 ± 28.90		< 0.01**
	Sexual function	9.62 ± 17.10	6.09 ± 11.22		0.53
	Sexual pleasure	33.14 ± 19.34	33.00 ± 0.00		–
	Future perspectives	51.31 ± 21.81	72.73 ± 29.24		0.01*
	Reactions to treatment	21.08 ± 17.53	28.45 ± 16.81		0.24
	Breast symptom	16.65 ± 16.21	21.91 ± 23.77		0.44
	Arm symptom	22.12 ± 24.16	22.09 ± 19.85		0.99
	Confusion of hair loss	51.78 ± 33.92	73.20 ± 36.70		–
Rosenberg self-esteem scale		27.96 ± 4.36	29.27 ± 6.99		0.57
General self-efficacy scale		9.23 ± 2.58	8.45 ± 3.64		0.46
Satisfaction with social support		4.77 ± 0.43	4.82 ± 0.41		0.74
Degree of information provided		2.69 ± 0.61	2.64 ± 0.67		0.80

Shown are mean ± SD.

QOL, quality of life.

Statistical significance was examined with one-way analysis of variance, *t*-test or chi-square test. \**P* < 0.05; \*\**P* < 0.01.

† Performance status by the Eastern Cooperative Oncology Group.

‡ European Organization for Research and Treatment of Cancer QOL questionnaire-cancer 30/breast cancer module 23.

**Table 2. Psychological factors of group participants and non-participants**

	Intervention group [n = 28]	Non-intervention group [n = 11]	Refusal group [n = 19]
<b>Reasons for participation</b>			
Group intervention is attractive	11 (39.3)	5 (45.5)	1 (5.3)
Want to try relaxation	5 (17.9)	2 (18.2)	4 (21.1)
Want to talk with someone who has the same disease	17 (60.7)	3 (27.3)	1 (5.3)
Need information	7 (25.0)	0 (0.0)	
Wish to cooperate with the survey	6 (21.4)	8 (72.7)	
Need mental support	8 (28.6)	1 (9.1)	1 (5.3)
Recommendation by other participants	1 (3.6)	0 (0.0)	
Recommendation by her family members	1 (3.6)	0 (0.0)	
<b>Reasons for non-participation</b>			
The hospital is too far away	1 (3.6)	6 (54.5)	9 (47.4)
Work		2 (18.2)	4 (21.1)
Caring for children		1 (9.1)	1 (5.3)
Caring for family members		0 (0.0)	1 (5.3)
No interest in group therapy		0 (0.0)	1 (5.3)
No need for mental support		0 (0.0)	9 (47.4)
Poor physical condition		4 (36.4)	3 (15.8)
Don't like to talk with other patients suffering from the same disease		3 (27.3)	1 (5.3)
<b>Others</b>			
Have knowledge of group therapy	6 (21.4)	2 (18.2)	1 (5.3)
Feel stress at present	9 (32.1)	4 (33.3)	7 (38.9)

( ), percentage.

ables, scores of profile of mood states, impact of event scale-revised, mental adjustment to cancer, QLQ-C30/Br23, Rosenberg self-esteem scale and general self-efficacy scale, degree of satisfaction with social support and degree of satisfaction with information provided at the baseline. This analysis revealed significant inter-group differences in the QLQ-C30/Br23 scores for constipation ( $P < 0.01$ ), body image ( $P < 0.01$ ) and future perspectives ( $P = 0.01$ ), as shown in Table 1.

### ***Analysis of interest and reasons for participation/non-participation in group intervention***

Table 2 shows the results of analyzing interest in group intervention and the reasons for participation/non-participation in such intervention, conducted at the time of enrollment. Knowledge about group intervention was self-reported by 9 patients (15.5%), including 6 patients (21.4%) from the intervention

group, 2 patients (18.2%) from the non-intervention group and 1 patient (5.3%) from the refusal group. Among all patients, 20 patients (34.4%) were aware of some stress, including 9 patients (32.1%) from the intervention group, 4 patients (33.3%) from the non-intervention group and 7 patients (38.9%) from the refusal group.

Major reasons for participation in group intervention were “I want to talk with someone who has the same disease” in 17 patients (60.7%), “Group intervention is attractive” in 11 patients (39.3%) and “Need mental support” in 8 patients (28.6%) (Table 2). In the non-intervention group, major reasons for non-participation were “The hospital is too far away” in 6 patients (54.5%) and “Don't like talking with anyone suffering from the same disease” in 3 patients (27.3%). In the refusal group, major reasons for non-participation were “No need for mental support” in 9 patients (47.4%) and “The hospital is too far away” in 9 patients (47.4%). Among the patients who did not participate in group intervention,

there were some who gave the following answers: “Group intervention appears to be attractive” in 5 patients (45.5%) of the non-intervention group and 1 (5.6%) of the refusal group; “Want to talk with someone with the same disease” in 3 patients (27.3%) of the non-intervention group and 1 (5.6%) of the refusal group; “Need mental supports” in 1 patient (9.1%) of the non-intervention group and 1 patient (5.6%) of the refusal group.

Of the patients who participated in group intervention, 7 patients (25.0%) answered that they needed information, while none of the non-participants gave such an answer.

## Discussion

**Interest in group intervention and percentages of participants:** When the subjects of this study were assessed for knowledge of group intervention, only 15% were found to have such knowledge. In Western countries, studies on group intervention have been conducted since 1970s, and knowledge of this intervention has spread considerably among the general public. In Japan, on the other hand, the therapeutic efficacy of group intervention with cancer patients has begun to be evaluated just recently. The low percentage of patients who had knowledge of group intervention in the present study seems to reflect the current status in Japan, i.e., group intervention has not yet become widespread.

However, of all patients eligible to participate in this study, 67% had an interest in group intervention and 48% actually participated in the intervention. Thus, a relatively high percentage of patients had an interest and participated in group intervention. In Western countries, the percentage of patients with metastatic breast cancer who participate in group intervention is reportedly 50% to 78% (Spiegel et al., 1981; Fukui et al., 2001; Goodwin et al., 2001). The percentage in the present study was close to that in Western countries. Despite the previous report that the Japanese tended to dislike talking about personal matters in the presence of other people (Spiegel and Classen, 2000), most

of the group intervention participants in the present study wanted to have discussions with other patients suffering from the same disease. This suggests that the Japanese also have a desire to share experiences with other patients suffering from the same disease, as is the case with cancer patients in Western countries (Cope, 1995).

The percentage of breast cancer patients who participated in group intervention in the present study was higher than the previously reported in Japan (35%) (Fukui et al., 2000). In consideration of the report that patients who wanted to participate in group intervention were often facing strong mental stress (Thiel de Bocanegra, 1992), the high percentage of the present participants indicated that there were many patients who wanted psychosocial intervention. In the literature, the psychological stress associated with recurrence of cancer was higher than that associated with the initial cancer (Okamura et al., 2000).

**Characteristics of participants in group intervention:** In the analysis of QOL, significant inter-group differences were noted in the scores for constipation, body image and future perspectives rated according to the QLQ-C30/Br23, suggesting that QOL was higher for participants than for non-participants. During group intervention, education on cancer and talks among participants were carried out, requiring the participants to confront certain aspects of their situation which they found stressful. Breast cancer is a disease which causes the patient to perceive changes in her body and deterioration of femininity and physical function, and group intervention for patients with this disease often adopts body image as a topic (Classen et al., 1993; Fawzy and Fawzy 1994). Therefore, what is required for breast cancer patients in the participation seems that body image- and future perspective-related QOL scores are not very low. On the other hand, the score for psychological stress showed no significant inter-group difference in the present study, despite significant differences reported between participants and non-participants (Berglund et al., 1997; Fukui, 2001). When asked

about the reasons for the participation, our patients often gave reasons associated with the desire to deal with psychological stress, e.g., “I want to talk with someone suffering from the same disease”, “I need mental support”, and so on. It was written that patients often came to have an interest in group intervention while they were aware of or were exploring the usefulness of groups (Thiel de Bocanegra, 1992). In view of these findings, in recurrent breast cancer patients, the participation might be stimulated by their awareness of the necessity of coping with psychological stress and of the usefulness of group intervention. Such awareness was acquired through their previous experience with coping with and overcoming the difficulties associated with cancer.

In the present study, the time needed for patients to attend the intervention meeting did not serve as an obstacle to the participation. The lack of influence of geographical distance in the participation is probably because many patients are skillfully utilizing potentially beneficial services (Bauman et al., 1992). Like their patients, our subjects had received follow-ups at a cancer center, and it is reasonable to assume that many of them more willingly accepted services which they felt to be beneficial than patients with other cancer did.

**Characteristics of non-participants:** More than half of the patients studied refused to participate in group intervention, and their QOL was lower than that in the participants. For non-participants as well, some psychosocial intervention are required, because more than 30% of participants and non-participants felt stress and because some non-participants had interest in group intervention and wanted psychosocial support. On the other hand, about half of the patients who refused to cooperate in the survey answered that they had no need for psychosocial support. In view of the previous report that psychological stress was particularly strong in patients who had no interest in group intervention (Fukui et al., 2001), it seems likely that these patients were coping with their problems by means of avoidance of facing the issue and that

their psychological stress was high.

None of the present participants answered the need of information about intervention, and some of them explained as the reason of avoidance of participation that they disliked talking with other patients suffering from the same disease. Patients sometimes do not want information because they fear receiving bad news (Meissner, 1990). Japanese cancer patients are often reluctant to talk with other participants during group intervention (Hosaka, 1996). It is therefore possible that even when patients have an interest in group intervention and are exposed to psychological stress, they decide not to participate in group intervention or do not admit their interest in this form of intervention. We cannot ignore that adverse influence may possibly be produced by providing information to patients who do not want to receive bad news regarding their illness (Asai, 1995). Stress may be increased if such information is provided to such patients (Mills, 1979). Patients who do not want to participate in group intervention despite facing psychological stress should be managed in a way tailored to their individual needs. For initial breast cancer patients who are not yet classified for group therapy, a system of nursing combined with follow-up service should be devised.

**Design and duration of group intervention:**

The main reasons for deciding to participate in group intervention were psychological factors, i.e., need for relaxation, transmission of information and talks with other patients suffering from the same disease. In this respect, the group intervention program we designed, composed of education, discussion and progressive muscle relaxation, satisfies the expectations of participants. Because the efficacy of intervention is closely related to its duration, long-term intervention has been justified (Spiegel and Classen, 2000) and implemented (Goodwin et al., 2001) for metastatic breast cancer patients predicted to suffer from psychological stress for a prolonged period. However, short-term intervention was reported more effective because the enthusiasm of participants tends to subside and



because they may be adversely affected by facing the death of some participants during prolonged intervention (Edmonds et al., 1999). We found that, not a few participants quit the intervention program midway because of inability to make arrangements for continued participation although the intervention. On the other hand, some patients continued to participate in the intervention despite having a job or living far away from the meeting place. They could have arranged their personal schedules to allow continued participation because the duration of intervention was short. The continued participation by recurrent breast cancer patients had probably been stimulated by the design of the intervention program (short-term, structured intervention), as well.

**Promotion of group intervention:** Group intervention allows QOL to be improved to a degree comparable to the improvement achieved by individual intervention (Sheard and Maguire, 1999), is cost-effective (Goodwin et al., 2001) and it can deal with many patients at one time. The participants in our intervention program had knowledge about group intervention in a higher percentage than the non-participants. So, to promote and deepen the knowledge about the presence of group intervention as a means of psychosocial support and about the details of such intervention, opportunities are to be provided for patients.

Social environments should be arranged so that recurrent breast cancer patients are supported by an approach tailored to the individual, involving both group and individual interventions.

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