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The Relation to Effective Communication on Cancer among Patients and the Families on Psychological Adaptation between Japanese Chemotherapy-Treated Outpatients and their Family Members

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Abstract

Objective: The purpose of this study was to determine if psychological adaptation between cancer patients and their families is dependent on effectiveness of their communication related to cancer.

Methods: Seventy-four cancer out-patients (37 males, 37 females) aged 60.1 +11.2 (SD) yr receiving chemotherapy treatment at the Hiroshima University Hospital and theirfamily members (28 males, 46 females) aged 54.8 +14.1 (SD) yr were studied. A survey was conducted using the Profile of Mood States scale and a cancer-related communication questionnaire.

Results: Seventy-four families, 74 patients and 74 their family caregivers, returned questionnaires by mail. The results showed thatpatient psychological adaptation is significantly dependent on younger age (β= -0.286, p<0.05), duration of cancer diagnosis (β= 0.279, p<0.05), and poor health condition (β= 0.302, p<0.05). For family members, psychological adaptation was dependent on ability to communicate effectively(β= -0.437, p<0.01)and younger age(β= -0.169, p<0.01).

Conclusions: The results of this study showed that better communication oncanceris associated withbetter psychological adaptation of cancer patient's family members. It is therefore recommended that healthcare providers should provide support cancer patients and their families to have effective communication on the illness.

Keywords: Communication, Family, Psychological adaptation, Cancer, Chemotherapy

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Introduction

With technological advances in cancer treatment, patients are living longer and both patients and their family members face the challenges associated with cancer treatment over longer periods of time as the disease progresses. In most outpatient treatment settings, patients usually have less interaction with healthcare professionals and even less opportunities to discuss with other patients especially if they are not members of cancer support groups or associations[1].

Thus,it is frequentfor patients and their families to deal with cancer challenges in isolation. For instance, patients undergoing outpatient chemotherapy and their family members are usually faced with both physical and mental challenges related to their disease management and treatment [2, 3]. In Japan, Saita et al. [4] performed semi-structured interviews with 85 cancer

patients receiving outpatient chemotherapy and found that patients were suffering from prolonged treatment anxiety and were dissatisfied with their somefamilies. As one of the factors behind negative reactions between cancer patients and their families, Lederberg [5] asserted that patients and their families avoid discussion about the disease out of concern for the other party ("conspiracy of silence"), which leads to worsening individual adaptation in family relations as well. Lederberg[5] further suggested that the families become unable to accurately judge the physical and mental state of the patient due to overt protective behavior which consequently causes deterioration in a patient's quality of life (QOL). Furthermore a survey of informal caregivers of cancer patients receiving palliative care showed that approximately 30% of respondents experienced difficulties in their relationship with the patient[6]. Additionally, a study involving both terminal cancer patients and their family members revealed a lack of agreement between many patients and their family members when discussing about treatment, care or determining intent[7].Similarly, previous studies have shown psychological maladaptation between patients and their family members[8 – 10].Other workers have identified age, sex, treatment period and patient physical condition as factors that affect psychological adaptation [9, 11 – 13]. Currently, there are no published Japanese studies that have examined the psychological adaptation of patients and their family members as a single unit or investigated whether communication between patients and their family members affects such adaptation.

Therefore this cross-sectional study sought to determine whether discussion on cancer between cancer patients and their family members related with their psychological adaptation.

Methods

Subjects

The subjects of this study were cancer patients undergoing outpatient chemotherapy treatment at the Hiroshima University Hospital, a regional cancer treatment center. For the purpose of this study, family members are considered to be the spouses, parents, children, siblings, or friends who the patients deemed to be closest to them, regardless of living arrangements.

All patients and their families provided written informed consent.This study was approved by the ethical committee' at Hiroshima University.

Data collection method and question items

Data collection was carried out between June and August 2007. In the chemotherapy treatment room, the researcher directly handed self-administered questionnaire forms to patients and family members that gave their consent to participate. Completed forms were returned by mail. Out of consideration of the physical burden on patients to respond to the survey, the questionnaire distribution period was set to the period preceding the patients' drug holidays, and the response period was set to the times when physical and mental condition was stable during their drug holidays.

1) Patient survey: To assess the patient's state of psychological adaptation, the Profile of Mood States (POMS) assessment was used[14]. The POMS is a 65-item self-administered questionnaire used to measure temporary emotional state. The reliability and validity of the Japanese version has been verified [15].

To evaluate cancer-related communication within the family, we developed an original 12-item questionnaire based on previous studies [7, 16 - 18] and on consultation with cancer nursing and family nursing researchers (Appendix). Patients were asked to rate the 12 items according to the following 4-point scale: 4 = strongly agree, 3 = somewhat agree, 2 = somewhat disagree, and 1 = strongly disagree. The overall Cronbach's α coefficient was 0.86.

Data was collected on the demographic variables such as sex, age, income, and family makeup. Regarding income, patients were asked to rate the question "How satisfied are you that your current income is sufficient to continue treatment?" on the following 4-point scale: 1 =

very satisfied, 3 = somewhat satisfied, 2 = somewhat dissatisfied, and 1 = not all satisfied. Data was collected for the medical variables of disease name, stage, time since diagnosis, and performance status (PS). PS was evaluated using the classification of the Eastern Cooperative Oncology Group (ECOG)[18].

2) Family member survey: As for the patients, the Profile of Mood States (POMS) was used to evaluate the family members' state of psychological adaptation. For cancer-related communication within the family, we developed an original 14-item questionnaire (Appendix). Family members also provided data on their current health status, rating it in relation to people of the same age on a 5-point scale: 1 = very poor, 2 = somewhat poor, 3 = about the same, 4 = somewhat good and 5 = very good. The overall Cronbach's α coefficient was 0.85. And data was collected on the demographic variables such as sex, age, health condition, income. Regarding income, families were asked to rate the question "How satisfied are you that your current income is sufficient to continue treatment?" on the following 4-point scale: 1 = very satisfied, 3 = somewhat satisfied, 2 = somewhat dissatisfied, and 1 = not all satisfied.

Analysis

The relationship between psychological adaptation and communication in patients and family members was assessed using the Spearman's rank-correlation coefficient. Multiple regression analysis was performed to clarify variables associated with psychological adaptation of patients and family members.

All p values were two-tailed, and p values of < 0.05 were considered significant. The Statistical Package for the Social Sciences (SPSS) software ver. 20.0 for Windows was used to perform all statistical analysis.

Results

We asked 138 patients for an investigation, and there was a reply from 74 patients and 74 their families. (53.6% response rate). An overview of the subjects is given on Table 1.

Table 1: Subjects' overview

		Patients, number (%)	Family members, number (%)
Sex	Male	37 (50.0)	28 (37.8)
	Female	37 (50.0)	46 (62.2)
Age (years)		60.18 (SD11.21)	54.8 (SD14.10)
Work situation	Full time	19 (25.6)	34 (45.9)
	Part time	11 (14.8)	8 (10.8)
	Unemployed	44 (59.4)	32 (43.2)
Income satisfaction	Very satisfied	2 (2.7)	2 (2.7)
	Somewhat satisfied	16 (21.6)	15 (20.2)
	Somewhat dissatisfied	32 (43.2)	24 (32.4)
	Not at all satisfied	12 (16.2)	10 (13.5)
Educational background	Graduate School	2 (2.7)	2 (2.7)
	University/ Technical college	16 (21.6)	15 (20.2)

	Junior college	9 (12.1)	11 (14.8)	
	High school	37 (50.0)	35 (47.2)	
	Junior high school	5 (6.7)	8 (10.8)	
	Other	5 (6.7)	2 (2.7)	
Subjective	PS 0	18 (24.3)	Very good	4 (5.4)
health condition	PS 1	49 (66.2)	Somewhat good	14 (18.9)
	PS 2	5 (6.7)	About the same	33 (44.5)
	PS 3	2 (2.7)	Somewhat poor	13 (17.5)
			Very poor	9 (12.1)
Cancer site	Breast	20 (27.0)		
	Pancreas	14 (18.9)		
	Stomach	13 (17.6)		
	Colorectal	12 (16.2)		
	Lung	4 (5.4)		
	Esophageal	4 (5.4)		
	Biliary Tract	2 (2.7)		
	Ovarian	2 (2.7)		
	Other	3 (4.1)		
Cancer stage	I	2 (2.7)		
	II	9 (12.2)		
	III	12 (16.2)		
	IV	17 (23.0)		
	Relapse	34 (45.9)		
Time since diagnosis		11.93 months (SD 12.30)		

Abbreviations: PS, performance status

State of psychological adaptation of patients and family members

The POMS results for patients and family members are shown on Table 2. Average values were highfor family members for Tension-Anxiety, Depression-Dejection and Anger-Hostility. No significant differences were observed for Vigor or Fatigue, but the average value for Confusion was higher for family members than for patients. Moreover, the average value for Total Mood Disturbance, which is the sum of the six subscales, was more than 10 points higher for family members than for patients.For Total Mood Disturbance score, 6 patients (8.1%) and 10 family members (13.5%) scored over 75 points, the criteria for determining psychological maladaptation.

Table 2: Psychological adaptation (POMS subscales) for the cancer patients (N=74) and their families (N=74)

	Patients				Family members			
	Minimum	Maximum	Mean	SD	Minimum	Maximum	Mean	SD
Tension-Anxiety	0	24	8.49	4.82	2	29	11.41	6.10
Depression-Dejection	0	40	9.91	8.91	0	41	11.89	9.38
Anger-Hostility	0	31	6.61	6.57	0	29	9.20	7.04
Vigor	-25	0	-11.81	5.62	-32	0	-11.68	6.58
Fatigue	0	21	8.64	4.98	0	24	8.59	5.57
Confusion	0	19	7.08	3.96	0	22	8.65	4.48
Total Mood	-19	124	28.91	27.21	-22	122	38.07	31.58

Relationship between psychological adaptation and communication between patients and family members

Spearman's rank-correlation coefficient was used to calculate the relationship between psychological adaptation and communication for patients and family members. For patients, the results showed a weak but significant correlation for communication for Anger-Hostility, Vigor, and Fatigue ($p< 0.05$; Table 3). It was suggested that the patients who got good communication about cancer were hard to feel anger or fatigue. For family members, a moderately significant correlation was observed for Depression-Dejection, Confusion, and Total Mood Disturbance ($p<0.01$). A weak but significant correlation was also observed for Tension-Anxiety, Anger-Hostility, Vigor, and Fatigue ($p<0.05$; Table 3). In other words, the family getting good communication to their patient about cancer has little confusion and anger, and it may be said that they are in a stable state psychologically.

Table 3: Spearman rank correlation between communication and psychological adaptation (POMS subscales) for the cancer patients (N=74) and their families (N=74)

	Communication	
Psychological adaptation (POMS subscales)	Patients	Family members
Tension-Anxiety	-0.117	-0.395**
Depression-Dejection	-0.162	-0.486**
Anger-Hostility	-0.271*	-0.396**
Vigor	-0.234*	-0.353**
Fatigue	-0.251*	-0.365**
Confusion	-0.011	-0.468**
Total mood	-0.230	-0.499**

* P<0.05 ** p<0.01

Influence of variables on psychological adaptation

As a measure of psychological adaptation, multiple regression analysis was performed for both patients and family members, with Total Mood Disturbance as the dependent variable and age, disease stage, time since diagnosis, income satisfaction, PS, patient health status, patient communication, family health status and family communication set as the independent variables (Table 4). Relations were recognized for patient psychological adaptation and younger age, longer time since diagnosis, and poor health condition. The good communication with the family about cancer did not influence the psychological adaptation of the patients. And we found that the psychological condition of the younger family who did not get good communication with the patient about cancer was worse.

Table 4: Influence of variables on psychological adaptation in patients (n=74) and family members (n=74) as determined by linear regression analysis

	Patient total mood					Family member total mood			
	β	t	p	VIF		β	t	p	VIF
Age	-0.286	-2.231	0.030	1.243		-0.346	-3.123	0.003	1.243
Sex	-0.224	-1.708	0.093	1.298		-0.169	-1.498	0.140	1.298
Income	0.138	1.116	0.269	1.146		0.167	1.569	0.122	1.146
Disease stage	-0.065	-0.503	0.617	1.254		0.129	1.159	0.252	1.254
Time since diagnosis	0.279	2.107	0.040	1.325		-0.024	-0.212	0.833	1.325
Performance status	0.081	0.653	0.516	1.158		0.042	0.390	0.698	1.158
Patient health status	0.302	2.499	0.015	1.105		-0.071	-0.678	0.501	1.105
Patient communication	0.03	0.253	0.801	1.323		-0.137	-1.196	0.237	1.323
Family member health status	0.008	0.065	0.948	1.233		0.094	0.856	0.395	1.233
Family member communication	-0.109	-0.804	0.425	1.391		-0.437	-3.736	<.001	1.391
	Adjusted R^2=0.126					Adjusted R^2=0.350			

Appendix

Patient communication scale

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
1) I frequently talk with family members about my disease.	4	3	2	1
2) I am satisfied with the discussions I have with family members about my disease.	4	3	2	1
3) I frequently talk with my family about the future.	4	3	2	1
4) I feel like I am a burden to my family.	4	3	2	1
5) I frequently talk with my family about treatment strategies and the	4	3	2	1

details of my treatment.				
6) I frequently talk with my family about how I spend my time each day.	4	3	2	1
7) I frequently try to incorporate advice from family members into how I spend my time each day.	4	3	2	1
8) I am satisfied with how I spend my time each day because I discuss this sufficiently with my family.	4	3	2	1
9) My family understands me (my pains, joys, etc.).	4	3	2	1
10) Since becoming ill, I think I retreat into my shell and am angry more than before.	4	3	2	1
11) My family makes an effort to talk about my illness and treatment.	4	3	2	1
12) I am satisfied in how much my family and I talk about the future.	4	3	2	1

Family member communication scale

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
1) I frequently talk about the patient's illness within the family.	4	3	2	1
2) I interact with the patient very cautiously.	4	3	2	1
3) I frequently talk with the patient about the future.	4	3	2	1
4) I am satisfied with how frequently I talk with the patient about the future.	4	3	2	1
5) I frequently talk with the patient about treatment strategy and details of the treatment.	4	3	2	1
6) I think that the patient retreats into his/her shell and becomes angry more than before becoming ill.	4	3	2	1
7) I frequently talk with the patient about how he/she spends time each day.	4	3	2	1
8) I feel that the patient avoids talking with me about the disease or treatment.	4	3	2	1
9) I am satisfied with how frequently I talk with the patient about how he/she spends time each day.	4	3	2	1
10) My interactions with the patient are not much changed since before he/she got cancer.	4	3	2	1
11) I get the feeling that the patient has become more of a burden on the family.	4	3	2	1
12) I am satisfied with how frequently the patient and I talk about	4	3	2	1

treatment strategies and treatment details.				
13) I frequently give advice to the patient about how he/she can spend time each day.	4	3	2	1
14) I am satisfied with the discussion we have within the family about the patient's illness.	4	3	2	1

Discussion

In a comparison of the average POMS scores—reflecting psychological adaptation— The mean scores (SD) of Tension-Anxiety, Depression, Anger-Hostility, Vigor, Fatigue, and Confusion for men in the Japanese general population (n = 3154) are 12.0 (6.3), 9.9 (9.8), 10.8 (8.2), 14.2 (6.1), 9.3 (6.2), 8.6 (4.7), respectively while those for women in the Japanese general population (n = 2423) are 12.1 (7.1), 10.9 (10.6), 10.9 (8.8), 13.3 (6.2), 10.2 (6.6), 8.7 (4.8), respectively [15], the scores for both male and female patients in this study were higher than average for Depression, Fatigue, Confusion, and Total Mood Disturbance; scores were lower than average for Tension-Anxiety and Anger-Hostility. For family members, scores were higher than average for all factors.These results are consistent with those of the National Cancer Center that indicate co-existing adjustment disorder in 5–35% of cancer patients [20]. The results for family members are consistent with the findings of Mantani et al. of 7–35% [21].

It is important to note that the response rate for this cross-sectional survey was 53.2%. Some subjects may have not participated due to unstable physical or mental conditions. Despite this rate, the results of the present study indicate that patients undergoing outpatient chemotherapy and some of their family members are in a state of psychological maladaptation.

Given the findings concerning the relationship between communication and psychological adaptation, factorsother than communication are likely influencing patients' psychological adaptation. For example, ages, time since diagnosis and health status. However, it cannot be denied that a lack of communication within the family can lead to failure to control adverse events or growing dissatisfaction with daily life, which may lead to patient anger or fatigue. For family members, the present results suggest that when both the patient and family are experiencing physical and mental hardships due to disease progression and its symptoms, patients fall into a self-instigated "conspiracy of silence" in which the communication becomes less frequent and satisfaction drops, negatively influencing psychological adaptation.

Furthermore, regarding the influence of variables on the patient's state of psychological adaptation, the coefficient of determination was low, at R^2=0.126, but age (β=0.286), time since diagnosis (β=0.279) and patient's health status (β=0.302) had significant effects. There were no significant influencing factors for communication. This suggests that for patients, psychological adaptation is influenced more by younger age, longer time since disease diagnosis, and poor physical condition than by communication. However, as the coefficient of determination was only 0.126, it is important to keep in mind that adaptation is also being influenced by a variety of other factors. For family members, the coefficient of determination was higher at R^2=0.350. This is a respectable value for this type of psychological study in which other factors are involved. The factors influencing the psychological adaptation of family members were found to be age (β=-0.346) and family communication (β=-0.437). This shows that, as for patients, adaptation is influenced by young age and the awareness that the family is not communicating effectively.

These results should not be a total surprise. Patients are most concerned about their own physical condition and it can be said that everything else is dependent on this. Family members, on

the other hand, must interpret the feelings of patients as they provide care for them. Therefore, it is somewhat obvious that insufficient communication will result in family members feeling as if they are at the mercy of the words and actions of the patients, causing emotional discord within the family. Until now, it was suspected that the communicative status within the family does influence the psychological adaptation of patients and family members in Japan, and this study has verified this and demonstrates the influence of communication for patients and their families[22].

Conclusion

Even though this was a single-center study and the sample was small (n=74; response ratio, 53.6 %), the results of this study reveal that communication about the disease does influence the psychological adaptation of family members. Furthermore, this study highlighted the tendency for communication in the family to influence psychological aspects in patients as well, such as anger and fatigue. Based on these results, it is important for healthcare providers to take note of, and provide support for, communication between cancer patients and their family members.

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