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ORIGINAL ARTICLE

RELATIONSHIP BETWEEN LIFE SATISFACTION AND THE ATTITUDE TOWARD OCCUPATIONAL THERAPY GROUPS IN INPATIENTS WITH SCHIZOPHRENIA

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Abstract This report describes the attitude toward occupational therapy and life satisfaction in patients with schizophrenia. Seventy-three inpatients with schizophrenia were asked questions about their life satisfaction, their attitude toward occupational therapy, and their desire to be discharged. The scores for life satisfaction were high, particularly regarding satisfaction about their environment. In contrast, the satisfaction scores for interpersonal relationships were relatively low. In answer to the questions regarding their attitude toward occupational therapy, 62 patients felt that occupational therapy was effective. This suggests that the study subjects regarded occupational therapy as a form of treatment for their disease. The number of patients who participated in occupational therapy with an active attitude was 35, with an inactive attitude was 30, and with a rejective attitude was 8. There was a significant relationship between the attitude toward occupational therapy and the desire to be discharged.

These findings indicate that many inpatients with schizophrenia regard occupational therapy as a form of treatment. Their desire to be discharged affected their attitude toward participation in occupational therapy. Therefore, it is possible to improve life satisfaction through occupational therapy in such patients.

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Key words: Quality of life; Life satisfaction of schizophrenia; Attitude toward discharge; Attitude toward occupational therapy.

Introduction

In Japan, since the law "Mental health and welfare for the mentally disabled" was enforced in 1995, the duration of hospitalization of inpatients with mental disorders has tended to shorten and the number of people with mental disorders who live in the community has tended to increase. For a mentally disabled person, social skills, such as competence in interpersonal relationships and money management, are necessary to live in the community. Poor social skills cause problems in community life, such as life failure and isolation. These problems lower the quality of life (QOL) and place burdens on such individuals. Stress is a cause of relapse[1], and therefore, reduction of stress is important. Occupational therapy is a treatment method to improve social skills[2, 3]. Therefore, the improvement of social skills through occupational therapy is expected to increase the feeling of satisfaction in people with mental illness.

This study investigated QOL in a sample of inpatients with mental illness and assessed the relationship between QOL and their attitude toward occupational therapy.

Methods

Subjects

The study subjects were inpatients with schizophrenia under occupational therapy treatment in the hospital in Aomori Prefecture.

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Subjects who could not answer questions in interview with severe delusion or hallucination were excluded. Finally, 76 inpatients with schizophrenia participated this study. The duration of the survey was from September 2009 to October 2009.

Measures

The Life Satisfaction Scale, which was developed by Kadoya[4, 5], was used for evaluating the QOL of the subjects. Research on the measurement of QOL was reviewed in 1995 by Kadoya[4]. There are many measures of QOL[6] for individuals with physical illnesses[7-10]. However, these evaluation tools are written in English, and it is difficult to ask questions in English to Japanese subjects. Therefore, in this study, the Life Satisfaction Scale[4], which is written in Japanese, was used to evaluate life satisfaction and QOL. The Life Satisfaction Scale is organized into six domains of life of patients. These are: (1) overall life; (2) physical function; (3) environment; (4) social skills; (5) interpersonal relationships; and (6) psychological aspects. The question about overall life is "Have you been satisfied with your daily life for the past one month?," Questions about physical function are "Have you been satisfied with your daily life for the past one month?," "Are you satisfied with your own health?," "Are you satisfied with your energy and physical strength to carry out daily activities?," "Are you able to get enough sleep and rest?," "Are you satisfied with your sexual life?," "Are you satisfied with your eating habits?," Questions about environment are "Do you feel that your life is safe and peaceful without being threatened by disaster and violence?," "Do you feel that your life is free and that your privacy is protected?," "Are you satisfied with the area and the facilities of your house (or institution) where you now live?," "Are you satisfied with your local living environment (convenience, satellite, stillness, climate, etc.)?," "Are you satisfied with your workplace (or occupational therapy room or daycare room) environment and the atmosphere, contents, and quantity of the activity program?," "Are you satisfied with your income (freely usable money) and belongings (e.g., furniture, electric appliances, or clothing)?," "Are you satisfied with the medical care (e.g., medicine, other treatment, or medical examination content) that you are now receiving?," Questions about social skills are "Are you satisfied with your appearance (e.g., bathing, haircut, makeup, or clothes) which you do on your own?," "Can you use means of transportation, financial institutions (e.g., post office or bank), and public institutions (e.g., city hall or a public health center)?," "Are you satisfied with how you spend your free time (i.e., leisure)?," "Are you ready to manage your life, such as money management, medication management, getting up at a fixed time, and having appropriate meals?," "Do you communicate with other people?," "Are you satisfied with your ability to work and learn?," Questions about interpersonal relationships are "Are you satisfied with your relationships (e.g., intimacy, frequency, mutual understanding and support, and love or trust) with the other members of your family?," "Are you satisfied with your acquaintances (e.g., intimacy, frequency, how to get along on meeting them, and the pleasure obtained) with friends?," "Are you satisfied with your acquaintances (e.g., intimacy, frequency, how to get along on meeting them, and pleasure obtained) with people of the opposite sex?," "Are you satisfied with your interactions with the general population (e.g., local people, circles and meetings, and public places)?," Questions about psychological aspects are "Do you feel that you are needed and loved by people?," "Do you feel that you are accepted by your neighbors?," "What do you think about doing things by

Table 1. Mean Score of Life Satisfaction (n = 73: male 44, female 29)

	All (n = 73)	(Male	Female)
Overall life	5.0 ± 1.9	(4.9 ± 1.9	5.1 ± 1.9)
Physical function	5.0 ± 1.3	(5.0 ± 1.3	5.0 ± 1.2)
Environment	5.3 ± 1.1	(5.1 ± 1.2	5.5 ± 0.9)
Social skills	4.9 ± 1.2	(4.9 ± 1.2	4.8 ± 1.2)
Interpersonal relationships	4.5 ± 1.4	(4.5 ± 1.3	4.6 ± 1.4)
Psychological aspects	4.7 ± 1.1	(4.7 ± 1.1	4.7 ± 1.0)

F = 2.6104, p = 0.0243

yourself and your role in these activities?," "Do you feel a sense of fulfillment and do you have a definite aim in life?," "Do you feel joy and pleasure in life?," "Do you think that you have an advantage, and how do you feel about it?," "Do you trust yourself and can you make decisions by yourself?," and "Do you feel that you are treated as "a person with a disability" or "a sick person?" All these questions were evaluated in 7 phases as follows: "1: very unsatisfied," "2: unsatisfied," "3: a little unsatisfied," "4: neutral," "5: a little satisfied," "6: satisfied," and "7: very satisfied." Subjects were required to choose one number from these evaluations for each question. The question about satisfaction in their sexual life was not used, and the remaining 30 questions were used in the survey.

The questions regarding occupational therapy were as follows: "Do you feel occupational therapy is effective for the treatment of your disease?" and "How have you participated in occupational therapy?" The question regarding discharge was "Do you want to be discharged?" Answers of these questions were collected from interviews by the occupational therapist of the hospital.

Subjects were informed about the "purpose of this study," that a "subject's privacy is protected," that a "subject's treatment is not influenced by cooperation in this research," and that "data from this study are to be used for research purposes only." Data were collected from subjects who agreed to participate in the study. The written consent were got from all subjects. This study was approved by the Ethics Committee of Hirosaki University School of Medicine (Reference No. 2008-055).

Statistical analysis

Results are expressed as mean ± the standard deviation of the mean. Statistical significance was determined by analysis of variance (ANOVA). The Chi-square test was used to compare distributions in the population. P-values <0.05 were considered to be statistically significant.

Results

Three subjects' answer that were not complete were excluded. Then answers from 73 subjects were analyzed. Of the subjects, 29 were female and 44 were male, with a mean age of 52.9 years.

The mean scores of the Life Satisfaction Scale in the subjects were 5.0 ±1.9 in overall life, 5.0 ± 1.3 in physical function, 5.3 ± 1.1 in environment, 4.9 ± 1.2 in social skills, 4.5 ± 1.4 in interpersonal relationships, and 4.7 ± 1.1 in psychological aspects (Table 1). There was no statistically significant difference between the scores of the male and female subjects.

The subjects whose Life Satisfaction Scale scores were 5 or more were classified into a

Table 2. Frequency and proportion of satisfaction (n = 73)

	Satisfied	Unsatisfied
Overall life	49 (67%)	24 (33%)
Physical function	42 (58%)	31 (42%)
Environment	57 (78%)	16 (22%)
Social skills	43 (59%)	30 (41%)
Interpersonal relationships	32 (44%)	41 (56%)
Psychological aspects	38 (52%)	35 (48%)

Table 3. Recognition of occupational therapy. (n = 73)

	Effective		Not effective
Effect of occupational therapy	62 (85%)		11 (15%)
	Active	Passive	Rejective
Attitude of the subject in occupational therapy	35 (48%)	30 (41%)	8 (11%)

Table 4. Distribution of Life Satisfaction Scores by the effect of occupational therapy (n = 73)

	Effective	Not effective
Overall life	5.0 ± 1.8	4.6 ± 2.6
Physical function	5.1 ± 2.0	4.2 ± 1.8
Environment	5.4 ± 1.0	4.6 ± 1.0*
Social skills	5.0 ± 1.2	4.3 ± 1.3
Interpersonal relationships	4.6 ± 1.3	4.0 ± 1.9
Psychological aspects	4.8 ± 1.0	4.2 ± 1.3

*$p < 0.05$

"satisfied" group and the remaining subjects were classified into an "unsatisfied" group. The frequency and proportion of the satisfied group were 49 (67%) in overall life, 42 (58%) in physical function, 57 (78%) in environment, 43 (59%) in social skills, 32 (44%) in interpersonal relationships, and 38 (52%) in psychological aspects, and the unsatisfied group were 24 (33%) in overall life, 31 (42%) in physical function, 16 (22%) in environment, 30 (41%) in social skills, 41 (56%) in interpersonal relationships, and 35 (48%) in psychological aspects. There were no statistically significant differences between each aspect (Table 2).

Table 3 shows the subjects' recognition of occupational therapy. Sixty-two (85%) patients felt that occupational therapy was effective. Regarding the attitude toward occupational therapy, 35 (48%) subjects were active, 30 (41%) subjects were passive, and 8 (11%) subjects were rejective.

Table 4 shows the distribution of the Life Satisfaction Scale scores according to whether the subjects felt that occupational therapy was effective or not. The Life Satisfaction Scale scores in the group that regarded occupational therapy as being effective were 5.0 ± 1.89 in overall life, 5.1 ± 2.0 in physical function, 5.4 ± 1.0 in environment, 5.0 ± 1.2 in social skills, 4.6 ± 1.3 in interpersonal relationships, and 4.8 ±

Table 5. Distribution of Life Satisfaction Scores by attitude to occupational therapy (n = 73)

	Active	Passive	Rejective
Overall life	4.9 ± 2.1	4.8 ± 1.6	5.9 ± 2.1
Physical function	5.0 ± 1.3	5.0 ± 1.3	5.0 ± 1.1
Environment	5.3 ± 1.0	5.3 ± 1.2	5.2 ± 0.9
Social skills	5.1 ± 1.2	4.0 ± 1.2	4.6 ± 1.3
Interpersonal relationships	4.8 ± 1.4	4.2 ± 1.2	5.0 ± 1.2
Psychological aspect	4.9 ± 1.1	4.5 ± 1.0	4.4 ± 1.3

1.0 in psychological aspects. The Life Satisfaction Scale scores in the group that regarded occupational therapy as not being effective were 4.6 ± 2.6 in overall life, 4.2 ± 1.8 in physical function, 4.6 ± 1.0 in environment, 4.3 ± 1.3 in social skills, 4.0 ± 1.9 in interpersonal relationships, and 4.2 ± 1.3 in psychological aspects. The distribution of subjects with satisfaction about their environment was more in the group that regarded occupational therapy as being effective compared to the group that regarded occupational therapy as being ineffective (ANOVA, $p < 0.01$).

Table 5 shows the distribution of Life Satisfaction Scale scores according to the attitude toward participation in occupational therapy. The Life Satisfaction Scale scores in the group with an active attitude toward occupational therapy were 4.9 ± 2.1 in overall life, 5.0 ± 1.3 in physical function, 5.3 ± 1.0 in environment, 5.1 ± 1.2 in social skills, 4.8 ± 1.4 in interpersonal relationships, and 4.9 ± 1.1 in psychological aspects. The Life Satisfaction Scale scores in the group with a passive attitude toward occupational therapy were 4.8 ± 1.6 in overall life, 5.0 ± 1.3 in physical function, 5.3 ± 1.2 in environment, 4.0 ± 1.2 in social skills, 4.2 ± 1.2 in interpersonal relationships, and 4.5 ± 1.0 in psychological aspects. The Life Satisfaction Scale scores in the group with a rejective attitude toward occupational therapy were 5.9 ± 2.1 in overall life, 5.0 ± 1.1 in physical function, 5.2 ± 0.9 in environment, 4.6 ± 1.3 in social skills, 5.0 ± 1.2 in interpersonal relationships, and 4.4 ± 1.3 in psychological aspects. There were no statistically significant differences between these three groups.

Fifty-seven (78%) subjects had the intention of being discharged, including 32 inpatients with the desire to be discharged immediately and 25 inpatients with the desire to be discharged in a few years.

The Life Satisfaction Scale scores in the group with the desire to be discharged were 4.8 ± 1.9 in overall life, 5.0 ± 1.4 in physical function, 5.3 ± 1.1 in environment, 4.9 ± 1.3 in social skills, 4.5 ± 1.4 in interpersonal relationships, and 4.7 ± 1.1 in psychological aspects. The Life Satisfaction Scale scores in the group with the desire not to be discharged (i.e., wanted to stay in hospital) were 5.6 ± 1.7 in overall life, 4.8 ± 0.8 in physical function, 5.4 ± 1.0 in environment, 4.8 ± 1.1 in social skills, 4.5 ± 1.0 in interpersonal relationships, and 4.7 ± 1.0 in psychological aspects. There were no statistically significant differences between the two groups (Table 6).

The attitude of participation to occupational therapy was classified into active and not active. The not active group included the subjects with passive and rejective attitudes toward occupational therapy. The proportion of patients with an active attitude toward occupational therapy was higher in the group with the desire to be discharged compared to the group with the desire not to be discharged (Table 7).

Table 6. The participants' scores on the Life Satisfaction Scale in 6 regions (n = 73)

	Desire of discharge	Staying in hospital
Overall life	4.8 ± 1.9	5.6 ± 1.7
Physical function	5.0 ± 1.4	4.8 ± 0.8
Environment	5.3 ± 1.1	5.4 ± 1.0
Social skills	4.9 ± 1.3	4.8 ± 1.1
Interpersonal relationships	4.5 ± 1.4	4.5 ± 1.0
Psychological aspect	4.7 ± 1.1	4.7 ± 1.0

Table 7. Distribution of desire of discharge and attitude to occupational therapy

Attitude to occupational therapy	Desire of discharge	Staying in hospital
Active	32 (44%)	3 (4%)
Not active (include rejective)	25 (34%)	13 (18%)

Chi-square value = 6.9982, df = 1, p = 0.0082

Discussion

The QOL of inpatients with schizophrenia and their life satisfaction

The concept of QOL was first defined by the World Health Organization (WHO) in 1948. The WHO stated that health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. The recent concepts of health, as stated by the International Classification of Functioning, Disability and Health, include "structure and function," "activities," "participation," "environmental factors," and "personal factors." There are two ways to evaluate these factors: 1) subjective evaluation of satisfaction by patients and 2) objective evaluation of satisfaction by clinicians. Many studies have shown disagreement as to which is the more accurate evaluation[10, 11]. Nowadays, patient-centered medicine and patient-centered care are more highly regarded[12, 13], and many measures based on subjective evaluation, such as the WHOQOL and the SF36, are used. For decades, QOL has been of interest to health personnel and particularly to rehabilitation specialists. Recently, QOL has been used as an important part of clinical investigation and patient care. However, application of the concept of QOL to the field of mental health presents some difficulties. Because many of the measures for QOL evaluate subjective feelings, in general, patients with schizophrenia are considered to be unable to evaluate themselves accurately. However, in recent years, a patient's own determination has come to be respected in the medical field, and measures of QOL by self-evaluation are now used for patients with mental illness. The Life Satisfaction Scale[4] that was used in this study is based on subjective evaluation. This scale consists of 31 questions in six regions, such as "Overall life," "Physical function," "Environment," "Social skills," "Interpersonal relationships," and "Psychological aspects." In this study, thirty questions were used and one question, "Are you satisfied with your sexual life?," was excluded because it does not apply to hospital inpatients in Japan.

The mean Life Satisfaction Scale scores were all more than 4. The mean score for satisfaction with the environment was higher than the mean score for satisfaction with interpersonal

relationships (ANOVA, F = 2.6104, p = 0.0243). This indicated that the hospital environment provided a high quality of safety, privacy, and amenities but a poor quality for providing skills in interpersonal relationships.

In the distribution of subjects who were satisfied or unsatisfied, the proportion of satisfaction for interpersonal relationships was lower than 50%; however, for the other regions, the proportion of satisfaction was more than 50%, again indicating poor skills for interpersonal relationships.

Attitude toward discharge

For inpatients with mental illness, a patient's desire to be discharged leads to motivation to be treated. In other words, knowing whether or not a patient wants to be discharged is very important in predicting the attitude toward treatment, such as medication and occupational therapy. Studies in Japan, regarding the attitude toward discharge of inpatients with mental illness, reported that from 65% to 83% of inpatients with mental illness had a desire to be discharged[14-16]. Our study is in agreement with these other studies in that we found that 78% of the subjects had the desire to be discharged[12-14]. In the distribution of the Life Satisfaction Scale scores divided based on the desire to be discharged, there were no statistically significant differences. These results indicated that life satisfaction and the desire to be discharged did not affect each other. Factors affecting the desire to be discharged were the relationships between the patients and their families. Because the families of inpatients with mental illness support the patients' lives after discharge[17], it is necessary for these patients to have the skills for creating good relationships with their families. In order to have these skills, patients must be trained in social skills, including skills for interpersonal relationships. Therefore, their desire to be discharged might motivate patients to participate in rehabilitation training.

Recognition of occupational therapy

In Japan, occupational therapy for people with mental illness began to shift after Dr. Shuzo Kure returned to Japan, having trained in Europe and having witnessed the European attitudes and practices toward occupational therapy[18]. The contents of Kure's therapy include physical labor, such as gardening and mowing, and handicrafts, such as sewing. Through this therapy, he expected the consciousness of an inpatient with mental illness to shift from abnormal experiences, such as delusion and hallucination, to being normal[18]. After psychotropic drugs were developed, occupational therapy was conducted as prevocational training or interrelationship training in the field of psychiatry. Recently, occupational therapy has been considered to be effective in improving QOL[19]. Occupational therapy is conducted as a form of rehabilitation in hospitals for the mentally ill. Therefore, occupational therapy might be familiar to inpatients with mental illness. In this study, 85% of subjects thought occupational therapy was effective in the treatment of their own disease. In the group with a desire to be discharged, more of the patients participated in occupational therapy in the active group than in the not active group. These results indicate that occupational therapy is accepted by patients as a form of treatment for their disease.

Limitations

This study also has several limitations. Data of this study such as life satisfaction; attitude toward discharge and occupational therapy were depend on their subjective feeling. Difference between proportion of subjects feeling effectiveness to occupational therapy and proportion of subjects participating with active attitude might be affected by their cognitive

disorder as confounding factor. In order to supplement these limits, it will be necessary to add objective evaluations by medical staff, such as evaluation of psychopathological symptom, evaluation of their behavior. Answers that many subjects had effectiveness of occupational therapy might be affected by bias from occupational therapist. Because these answers were collected from interview by occupational therapist. It will be necessary that interviewer should be person irrelevant to the patient, in order to avoid these bias.

Conclusion

The life satisfaction of 73 inpatients with schizophrenia was investigated. The life satisfaction score for their environment was higher than the score for their interpersonal relationships. This indicates that such patients are vulnerable in their social skills, including interpersonal relationships.

Seventy-eight per cent of patients had a desire to be discharged. However, there was no statistically significant difference in the life satisfaction scores between the group with a desire to be discharged and the group who did not have a desire to be discharged. The attitude toward participation in occupational therapy was more active in the group with a desire to be discharged.

Occupational therapy was recognized by the patients as a method of treatment for their disease. These results highlight the importance of improving social skills through occupational therapy in order to improve life satisfaction.

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