Effect of psychoeducation program on self-efficacy of schizophrenic patients utilizing psychiatric day care: a preliminary study

Hirofumi Yamaji, Fumiko Kaneko, Norma J. Johnson and Hitoshi Okamura*

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Objectives: The objective of this study was to incorporate social skills training into psychoeducation and to assess its feasibility and effectiveness in increasing self-efficacy.

Methods: The subjects were 33 schizophrenic patients utilizing psychiatric day care who met the eligibility criteria and gave their written consent to participate. The Generalized Self-efficacy Scale (SE scale) was used for conduct evaluations on three occasions: 1 month before the intervention, immediately before the intervention, and immediately after completion of the intervention.

Results: There were no major problems during the conduct of the program. The SE scale score changed significantly between immediately before the intervention and immediately after completion of the intervention, and a long hospital stay was shown to be related to increased self-efficacy.

Conclusions: This program is capable of being conducted with schizophrenic patients as subjects, and it was concluded to be effective in increasing their self-efficacy. The results suggested that patients who lived in the community after a long hospital stay had a stronger will to obtain knowledge about living, which had been impossible to acquire because of their long hospitalization.

Introduction

Psychiatric day care is a method of rehabilitation for mental disorders that is aimed at acquisition of social skills and stabilization of the patients' pathology. However, only a few reports on its therapeutic efficacy have claimed that it is effective in improving social functioning[1-3] and that reductions in recurrence rate and hospital readmission rates were observed[4], and thus its therapeutic efficacy remains to be established. Actually, some schizophrenic patients who seem to be highly employable attend day care for many years without taking the next step because of a lack of self-confidence. We therefore focused on the patient's self-values, i.e., self-efficacy as one of the background factors, because patients' poor self-efficacy impedes improvement in their social functioning[5]. However, the content of conventional psychiatric day care, including knitting or handicrafts, was thought to be lack of a program that focused on everyday living, and inadequate in terms of raising their self-efficacy.

Bandura[6] looked at the role of cognitive processes in social learning theory and focused on self-efficacy as an antecedent factor of behavior. A review of research on self-efficacy revealed many reports in the health education field, including a report that patients who completed a smoking cessation program increased their self-efficacy and succeeded in not smoking[7], and a report of the conduct of a stress management program to increase the self-efficacy of chronic rheumatism patients that was effective[8]. In psychiatric fields, on the other hand, social skills training (SST) or psychoeducation program is reported to be effective in increasing self-efficacy in patients with generalized social phobia[9] or families of patients with schizophrenia[10]. However, in research on self-efficacy targeting schizophrenic patients there have

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・山路博文，金子史子，ノーマ・ジョンソン，岡村 仁
・Graduate School of Health Sciences, Hiroshima University
・＊Corresponding author：Hitoshi Okamura, MD, Graduate School of Health Sciences, Hiroshima University, 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan
TEL : +81-82-257-5450 FAX : +81-82-257-5454 E-mail address : hokamura@hiroshima-u.ac.jp
・広島大学保健学ジャーナル Vol. 5 (1)：35〜41，2005

been only a few reports on assessment of self-efficacy[11, 12], and no empirical studies that perceived changes in self-efficacy as a result of an intervention, including SST or psychoeducation, have ever been reported.

Accordingly, in the present study we prepared a new program that incorporates SST, which is effective in eliciting independence, into psychoeducation with the objective of increasing the self-efficacy of schizophrenic patients utilizing psychiatric day care, and we assessed its feasibility and effectiveness in increasing self-efficacy.

Methods

Subjects

The subjects of this study were outpatients utilizing psychiatric day care who 1) had been diagnosed with schizophrenia according to the ICD-10 or the DSM-IV[13] and 2) had been utilizing psychiatric day care at least 3 days a week. Patients in the acute stage or in a state of symptom exacerbation were excluded from the study.

Preparation of the intervention program

The content of the program was developed focusing on the needs of everyday life and was based on tests or papers on SST and psychoeducation. The program that was prepared was subsequently conducted on a group of 10 patients once a week for 6 weeks as a pilot study. At each session the participants' opinions were solicited by asking, "Did you enjoy the program?", "What was useful to you?", and "Is there anything that should be improved?" We also had the day-care staff participate in each session, and we listened to their opinions in regard to the content of the program, how it was progressing, members' facial expression, will of the participants, and attitude of the participants. Using their opinions for reference, we agreed on the final construction of the program as shown in Table 1. In addition, we established the program structure shown in Table 2 so that everyone could share the content by role playing what they had discussed in the group.

Table 1. Psychoeducation program

	Content of the program (once a week, 60 minutes each time, for a total of 6 times)
1st session	Orientation Practice: How to greet people, use of polite language
2nd session	Practice: How to participate in ceremonial occasions
3rd session	Practice: How to deal with failure
4th session	Practice: How to make phone calls when troubled
5th session	Practice: How to deal with stress
6th session	Group discussion, Response to questionnaires

Procedure

We conducted the intervention on subjects who fulfilled the eligibility criteria and who gave written informed consent in. A quiet room was used to conduct the sessions. The leader was an occupational therapist, and each group was composed of around 10 subjects. The subjects were requested to participate in all group activities, which were held once a week (60 minutes) for 6 weeks (a total of 6 sessions).

The evaluations were conducted three times: 1 month before the intervention, immediately before the intervention, and immediately after completion of the session at 6 weeks. The self-report questionnaire described below was used for the evaluation.

Measures

1) Background data

Sociodemographic data, such as gender, age, work experience and its duration, education history, length of day-care attendance, and number of other members of the household were collected from the patients' charts as sociodemographic data, and duration of illness, length of hospital stay, and number of hospital admissions were collected as medical information.

2) Self-efficacy: Generalized Self-efficacy Scale (SE scale)

According to Bandura[14], self-efficacy affects human behavior on two levels. On one level, the self-efficacy has a task-specific influence on specific behavior, and it is often used in education settings[15, 16]. On the other level, the self-efficacy influences behavior in more generalized everyday-life settings that does not depend on specific tasks or situations, which Sherer[17] refers to as generalized self-efficacy. In the present study we investigated whether self-confidence in relation to everyday living was acquired as a result of the intervention, and after deciding to focus on the latter,

Table 2. Structure of the session

1. Read a summary.
2. Image a problem based on the summary, think about how to deal with the problem, and discuss it in a small group.
3. Role play what was discussed in the small group.
4. Observe the role play and share with all members of the group.
5. Role play again, and deepen knowledge and awareness.

generalized self-efficacy, we used the SE scale to evaluate it. The SE scale is composed of 23 questions, and answers are solicited by the 5-choice method. Possible total score ranges from 23 to 115. Higher scores mean higher ratings of self-efficacy. The reliability and validity of the Japanese version of the SE scale have already been demonstrated[18].

3) Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale is a self-report evaluation scale composed of 10 questions that measures basic emotions in regard to self-acceptance and self-worth[19]. Answers are solicited by the 4-choice method, and possible total score ranges from 10 to 40. Higher scores mean greater recognition of self-worth. The Japanese version was prepared by Hoshino[20], and both its reliability and validity have been assessed[21]. Since self-esteem is reported to be associated with self-efficacy[20], we assessed self-esteem as one of the possible factors related to changes in self-efficacy in this study.

4) Feasibility

A discussion by the group and a free-response type questionnaire survey were conducted at the final session, and opinions about the program were collected to assess feasibility.

Statistical analysis

1) Efficacy of the program

Total scores on the SE scale 1 month before the intervention, immediately before the start of the intervention, and immediately after completion of the session at 6 weeks were compared by the paired t-test, after confirming their normality.

2) Factors related to efficacy

In order to assess factors (sociodemographic data, medical information, feelings of self esteem), we first divided the patients into two groups according to the changes in their SE scale scores after the intervention: a group whose scores had increased and a group whose scores were unchanged or had decreased. We then used these two groups as dependent variables and evaluated their relation to each of the factors by means of the t-test, chi-square test, or Mann-Whitney *U*-test.

All p values were two-tailed, and p values < 0.05 were set as significant. The Statistical Package for the Social Sciences (SPSS) 12.0J software was used to perform all of the statistical analyses.

Ethics considerations

After this study had received the approval of each of the institutions, the subjects were given an oral explanation of the purpose and methods of the study, content of the program, the fact that they could refuse to participate in the study at any time, that they would not be discriminated against in terms of treatment because of having refused, and that their privacy would be strictly respected, and their consent was obtained in written format. During the conduct of the program, adequate consideration was given to its ethical aspects, while carefully monitoring the mental condition of the patients.

Results

Subjects' participation in the study

After sufficiently explaining the study to the 42 eligible patients, 33 of them gave their consent to participate. Because 2 of them were admitted to the

Table 3. Background data of the subjects

		Male	Female	Total
N		14	13	27
Age (years)		52.5 ± 7.8[a]	59.2 ± 13.0	55.7 ± 11.0
Duration of illness (years)		25.0 ± 11.6	16.6 ± 10.2	21.0 ± 11.6
Length of hospital stay (years)		8.9 ± 4.3	7.3 ± 5.6	8.2 ± 4.9
Number of hospital admissions		5.5 ± 4.9	5.5 ± 4.0	5.5 ± 4.4
Work experience	(+)	13	4	17
	(−)	1	9	10
Education	< 10 years	7	8	15
	≧ 10 years	7	5	12
Score on the SE scale immediately before the intervention		68.6 ± 20.2	60.5 ± 10.5	64.6 ± 16.5

a : Mean ± Standard Deviation

hospital before the start of the intervention and another 4 dropped out as a result of absence between start of the study and the completion of the intervention, the evaluation immediately after the intervention was performed on 27 subjects.

Subjects' characteristics

The results of the assessment of the baseline data on the 27 subjects are shown in Table 3. The mean score for self-efficacy on the SE scale before the intervention was 64.6. Based on the report by Narita et al[18] of a mean score of 76.5 when the SE scale was administered to 1524 Japanese subjects, the participants in our study tended to have lower self-efficacy than healthy subjects.

Comparison between SE scale scores 1 month before the intervention and immediately before the intervention, and between SE scale scores immediately before the intervention and immediately after completion of the intervention (Fig. 1)

The SE scale score was 64.8 ± 16.3 (mean ± standard deviation) one month before the intervention and 64.6 ± 16.5 immediately before the intervention, and the change was not significant. The SE scale score immediately after completion of the intervention, on the other hand, was 70.5 ± 16.2, and the score had increased significantly as a result of the intervention.

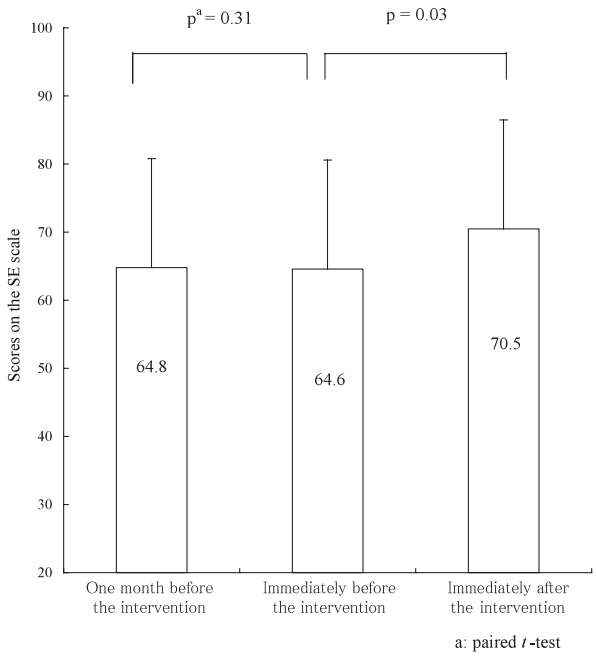

Fig. 1. Changes in mean scores on the SE scale (N = 27)

Factors related to the efficacy of the intervention (Table 4)

To assess factors related to the efficacy of the intervention, we divided the subjects into two groups, a group whose SE scale scores had increased (16 subjects) and a group whose scores were unchanged or had decreased (11 subjects), and assessed their relation to age, work experience, education history, number of other

Table 4. Factors related to changes in SE scale scores

		Group whose scores increased (N=16)	Group whose scores were unchanged or decreased (N=11)	p value
Age (years)		58.8 ± 9.4	51.2 ± 11.8	0.78[a]
Work experience	(+)	10 (63%)	7 (64%)	0.99[b]
	(−)	6 (37%)	4 (36%)	
Education	< 10 years	11 (69%)	4 (36%)	0.13[b]
	≧ 10 years	5 (31%)	7 (64%)	
Number of other members of the household				0.66[b]
	0	13 (81%)	8 (73%)	
	≧ 1	3 (19%)	3 (27%)	
Gender	Male	7 (43%)	7 (63%)	0.26[b]
	Female	9 (57%)	4 (37%)	
Duration of illness (years)		21.2	20.6	0.96[c]
Length of hospital stay (years)		9.8	5.6	0.03[c]
Number of hospital admissions		6.5	4.0	0.24[c]
Mean change in scores on the Self-Esteem Scale		15.9	11.2	0.13[c]

a : *t*-test, b : chi-square test, c : Mann-Whitney *U*-test

members in the household, gender, duration of illness, length of hospital stay, number of hospital admissions, and changes in feelings of self-esteem score. The results showed that the only significant relationship ($p = 0.03$) was with length of hospital stay, and a long period of hospitalization was shown to be significantly related to improvement of self-efficacy.

Evaluation of the participants in the intervention

The evaluation was summarized as follows:

1) Results of the group discussions

Many opinions were heard that the atmosphere in the group was "fun" and "interesting", and there were many positive opinions regarding the approach, such as "I gained self-confidence by practicing". In regard to the content of the program, there was the opinion that, "Since I was in the hospital for a long time, there were lots of things I didn't know", and many opinions that it was mainly useful in their everyday life; "It seemed I could use some things, like greetings, right way", "I realized that living without goals was no good", "It was useful for living". By contrast, little negative opinions were heard.

2) Results of the questionnaire

All 27 participants freely responded to the question "How was the program for you?", and they were divided into the following three groups according to the content of their responses:

(1) a group that stated that they were grateful for having participated: 3 subjects (11%)

(2) a group that stated that the program was meaningful: 14 subjects (52%)

(3) a group that stated both that they felt grateful for having participated and that the program was meaningful: 10 subjects (37%).

Discuccion

Subjects' participation, and feasibility

Nine (21%) of the patients who met the eligibility criteria did not fill out the informed consent form and did not participate. Only one of the 9 refused to fill out the consent form; the others did not adequately understand the explanation. Another 4 patients dropped out between 1 month before the intervention and immediately before the intervention because of admission to the hospital due to worsening of their diabetes, and 4 more patients stopped attending the program during the course of intervention for personal reasons. However, the program did not appear to have been influenced from any of these situations, nor were there any negative evaluations of the program in the survey after completion of the intervention.

Based on the findings above, participation in the program is quite possible if consent is obtained from the subjects, and the results also suggested that there were no major impediments or problems in conducting the program.

Efficacy of the intervention

The comparison between the SE scale scores 1 month before the intervention and immediately before the intervention showed no significant change, suggesting that no increase in self-efficacy occurs in ordinary day-care programs. The participants in day care who were the subjects of this study took part in programs that centered on handicrafts, cooking, and recreation. Because such ordinary day-care programs do not focus on everyday living and have as their principal aim improvement in patients' interpersonal relations as a result of participation in the program, they do not appear to have had any impact in increasing self-efficacy.

By contrast, an increase in SE scale scores between immediately before the intervention and immediately after completion of the intervention was observed as a result of the intervention program used in this study. Togasaki[22] has stated that if there is a strong will to apply the social skills acquired in training settings to everyday-life settings in the same way, they can be transferred to everyday-life settings rather easily. The results of our study showed that from the very beginning the participants had the will to apply the contents of the program to their actual everyday lives, and that appeared to have been a factor of the self-efficacy in the participants having been raised by the intervention which focused on everyday living. Moreover, our intervention appeared to have had a positive effect on three of the factors that Bandura[14] claimed caused changes in self-efficacy: performance, vicarious experience, and verbal persuasion. More specifically, it seemed that performance was encouraged by the participants having thought about methods of coping through psychoeducation and engaging in small group discussions, and then having been able to participate in role playing and have the successful experiences of receiving positive evaluations from the staff and participants. The efficacy of vicarious experience appeared to have been promoted by hearing

the opinions of other participants and learning that there were other opinions besides their own in the discussions related to coping methods, as well as by observing role playing and learning different means of expression besides their own. The efficacy of verbal persuasion seemed to have been obtained by accepting the explanations by the staff and by expressing themselves in small group discussions.

On the other hand, in the 11 subjects the SE scale scores were unchanged or decreased. For this reason, short-term intervention for a 6-week period may have been too short to increase the self-efficacy of schizophrenic patients. Moreover, the intervention in this study may have had an effect on other factors, including QOL or social anxiety, rather than self-efficacy. In the future it is necessary to reconsider the intervention program and evaluation methods.

Factors related to the efficacy of the intervention

The results of the univariate analysis showed that a long period hospital stay was related to increased self-efficacy. As a result of having their daily lives regimented while in the hospital the patients with long hospital stays had been forced into the lifestyle of a patient, and they were perceived as passive people, which was the product of a long hospital life. However, the results of this study that a long hospital stay was related to increased self-efficacy suggest that utilizing post-discharge day care and participating in a program that focuses on everyday living, such as the intervention in this study, the will to live their lives of even schizophrenic patients hospitalized for long periods may restore.

The following was inferred to be the reason for this, based on the opinion expressed in the discussion at the end of the 6th session that, "because I was in the hospital for a long time, there were many things I didn't know". When patients are discharged and return to community life after a long hospital stay they must re-acquire the everyday living competence that they lost during the long period of hospitalization. Thus, it seemed that by being offered the intervention program in this study and participating in it, such patients developed strong feelings toward everyday living and then recovered self-confidence in regard to leading their daily lives. However, since we did not conduct a detailed assessment of each individual patient in this study, further study of the relation between length of hospital stay and self-efficacy is needed.

Limitations and Perspectives

The first limitation of this study is that because it was a preliminary study on the usefulness of the program, no control group was established, and the assessment consisted of simply comparing the self-efficacy scores of the examinees before and after the intervention. The second limitation is that the program was prepared with the principal focus on the texts, papers, and everyday living based on the opinions of the participants and the staff. Because of this, behavior toward medication and treatment, which are important for schizophrenic patients to lead their daily lives, were not reflected in the program. The third limitation is that the patients' mental symptoms were not evaluated in detail, and thus it was impossible to assess differences in the efficacy of the program according to the severity of their mental symptoms. Finally, the efficacy of the intervention in this study was evaluated only immediately after the intervention, and since there was no assessment of the duration of its effect, continuous follow-up is needed.

Based on the results and the limitations of the preliminary study described above, it will be necessary to assess the efficacy of the program by means of a randomized controlled study on a large number of subjects in many institutions in the future.

References

1. Creed, F., Black, D. and Anthony, P.: Randomised Controlled trial of day patient versus inpatient psychiatric treatment. BMJ, 300: 1033-1037, 1990
2. Creed, F., Black, D. and Anthony, P.: Randomised Contorolled trial of day patient versus inpatient psychiatric treatment 2: comparison of two hospitals. Br. J. Psychiatry, 158: 183-189, 1991
3. Cuyler, R.N.: The challenge of partial hospitalization in the 1990s. Psychiatr. Hosp., 22: 47-50, 1992
4. Herz, M. I., Endicott, J. and Spitzer, R. L.: Brief hospitalization of patients with families: initial results. Am. J. Psychiatry, 132: 413-419, 1975
5. Yanos, P. T., Primavera, L. H. and Knight, E. L.: Consumer-run service participation, recovery of social functioning, and the mediating role of psychological factors. Psychiatr. Serv., 52: 493-500, 2001
6. Bandura, A.: Self-efficacy: toward a unifying theory of behavioral change. Psychol. Rev., 84: 191-215, 1977
7. Kowalski, S. D.: Self-efficacy as predictors of success in smoking cessation. J. Holist. Nurs., 15: 128-142, 1997
8. Smarr, K. L., Parker, J. C. and Wright, G. E.: The important

of enhancing self-efficacy in rheumatoid arthritis. Arthritis Care. Res., 10: 18-26, 1997

9. van Dam-Baggen, R. and Kraaimaat, F.: Group social skills training or cognitive group therapy as the clinical treatment of choice for generalized social phobia? J. Anxiety Disord., 14: 437-451, 2000
10. Cheng, L. Y. and Chan, S.: Psychoeducation program for chinese family carers of members with schizophrenia. West. J. Nurs. Res., 27: 583-599, 2005.
11. McDermott, B. E.: Development of an instrument for assessing self-efficacy in schizophrenic spectrum disorders. J. Clin. Psychol., 51: 320-331, 1995
12. Chiu, F. P. and Tsang, H. W.: Validation of the Chinese general self-efficacy scale among individuals with schizophrenia in Hong Kong. Int. J. Rehabil. Res., 27: 159-161, 2004
13. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. American Psychiatric Association, Washington DC, 1994
14. Bandura, A. (ed.). Self-efficacy in changing societies. Cambridge University Press, London, 1997
15. Corno, L. and Mandinach, E. B.: The role of cognitive engagement in classroom learning and motivation. Educ. Psychol., 18: 88-108, 1983
16. Schunk, D. H.: Modeling and attributional effects on children's achievement: a self-efficacy analysis. J. Educ. Psychol., 73: 93-105, 1981
17. Shere, M., Mddux, J. E. and Mercandante, B.: The self-efficacy scale: construction and validation. Psychol. Rep., 51: 663-671, 1982
18. Narita, K., Shimonaka, J. and Nakazato, K.: Study on the Generalized Self-efficacy Scale (Japanese). Jpn. J. Educ. Psychol., 43: 306-314, 1995
19. Rosenberg, M.: Society and the adolescent self-image. Diane Pub. Co, Collingdale, 1999
20. Hoshino, M.: Affective psychology and education (Japanese). Child Study, 8:161-193, 1970
21. Sugasa, K.: Study on SE (self-esteem) (Japanese). Jpn. J. Nurs. Res., 17:117-123, 1984
22. Togasaki, Y.: Rehabilitation. In: Sakano, Y. and Maeda, M. (eds.) Clinical psychology inself-efficacy (Japanese). Kitaohjisyobou, Kyoto, 2002.