Original Article

Illness Management and Recovery Program in Community-Based Continuous Employment Support Centers in Japan: Preliminary Study on Effects and Feasibility

Kiyoko Fukushima[1],*, Manami Kodaka[2] and Aoi Suzuki[3]

[1] *Japan Lutheran College, Tokyo, Japan*
[2] *Institute of Greif Care, Sophia University, Tokyo, Japan*
[3] *NHK Academy of Distance Learning, Tokyo, Japan*

Abstract   We implemented the illness management and recovery (IMR) program for people with severe and persistent mental disabilities who regularly utilize community-based continuous employment support centers in Tokyo, Japan, to conduct a preliminary study on effects and feasibility of the IMR program in these centers.

Twenty-three participants with severe and persistent mental disabilities were recruited from four centers. The level of recovery, quality of life, illness management skills, activation, need for care, and degree of functioning were measured before and after intervention. Fidelity scores were assessed through interviews with staff and participants.

Twenty participants completed the program. GAF scores were significantly higher at the follow-up time. Needs for care in crisis situations, were improved after intervention but not at follow-up. Fidelity scale scores were relatively high overall, except for scores for "involvement of relevant others" and "cognitive behavioral techniques."

Our findings confirm the preliminary effects of the IMR program for people with severe mental disabilities at community-based continuous employment support centers in Japan. Feasibility of the program can be ensured by providing pre-training, on-going supervision, and culturally appropriate and socially suitable handouts.

Key words: Illness Management and Recovery (IMR), recovery, severe and consistent mental disabilities, community-based, continuous employment support centers

I.   Introduction

1.   Background

In Japan, the Comprehensive Support Law for People with Disabilities came into effect in 2013. This law requires that people with disabilities receive comprehensive support based on their needs in carrying out daily and social life activities within their communities. Among agencies

that provide social services for people with disabilities are continuous employment support centers (type B). Other than those that provide home-help services, these centers are the largest in number (about 8,700), with approximately 174,000 users (Ministry of Health, Labour and Welfare, 2017).

2.   Continuous employment support centers

Continuous employment support centers are work centers where people with disabilities can earn a subminimum wage. An average of roughly 20 users (34.7% between 10 and 19, 28.4%

between 20 and 29) commute to these centers on a daily basis (14.6 days a month on average). Most of these centers are small business offices with an average of 5.61 staff members. Among 174,000 actual users, roughly 53,000 have mental disabilities, mostly schizophrenia and mood disorders. Some centers mainly support people with mental disabilities and usually hire psychiatric social workers and care workers (Ministry of Health, Labour and Welfare, 2017).

While continuous employment support centers aim to provide a meaningful work place for people with disabilities for maintaining their stable daily life activities, a significant proportion of people with mental disorders suffer from persistent symptoms and/or several relapse episodes and re-hospitalization (Csernansky and Schuchart, 2002). Therefore, the purpose of continuous employment support centers is not only to provide knowledge and skills necessary for employment as required by the law, but also to provide comprehensive support to help clients stabilize their daily lives without re-hospitalization (Tamada et al., 2012). According to the new Global Definition of Social Work Profession, "social work engages people and structures to address life challenges and enhance wellbeing" (International Federation of Social Workers 2017). As such, the continuous employment support center staff members, who are second only to family members in the amount of time spent with the clients and keenly aware of their everyday situations, strive to work with users to address their life challenges, such as stress management and mental health service utilization, and to enhance their well-being by helping them set up and progress toward individual recovery goals. Concurrently, social workers mediate between users and organizations such as family members, public health institutions, and mental health service providers (Misaki, 2009); thus, aiming to provide these support, an evidence-based program Illness Management and Recovery (IMR) may match the needs.

3.   Illness management and recovery

The IMR program was developed originally in the United States with the aim to help people with mental disabilities learn how to manage their disabilities more effectively in pursuing their personal recovery goals (Mueser et al., 2006). The IMR program has been shown to be effective in several randomized controlled trials (Levitt et al., 2009; Färdig et al., 2011) and has been implemented in various settings, including psychiatric outpatient rehabilitation centers (Färdig et al., 2011), psychiatric day care (Fujita et al., 2010a) and multiple-unit supportive housing (Levitt et al., 2009). In Japan, the effectiveness and the feasibility of the program in social service agencies, including continuous employment support centers, has not yet been addressed.

With respect to the implementation of the evidence-based program, the disparity between research and practice has attracted attention, as research tends to focus more on implementing the program in experimental settings rather than real ones. However, the definition, scope, procedures, and constructs of implementation research have been controversial (Stirman et al., 2016). We set out to explore the preliminary effects of the IMR program and to verify the feasibility of implementing the IMR program at continuous employment support centers in Japan while adapting some of the implementation strategies, e.g. providing specific training, supervision, and culturally relevant handouts (Stirman et al., 2016).

4.   Purpose

This study aimed to conduct a preliminary study on effects of the IMR program and verify the feasibility of implementing the IMR program in continuous employment support centers in Japan.

II.   Methods

1.   Participants and procedures

Four continuous employment support (type B) centers (centers A, B, C, and D) located in Tokyo

were included in this study. Participant eligibility criteria included (1) over 20 years of age; (2) diagnosed with either F20–29 (schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders) or F30–39 (mood disorders) based on ICD-10 criteria; and (3) able to understand the study description and provide informed consent. Those for whom study participation was deemed undesirable by the attending psychiatrist or center staff were excluded.

To evaluate preliminary effects of the IMR program, we conducted a survey of participants 1–2 weeks before, 1–2 weeks after, and three months after their participation in the program. The survey included questionnaires completed by each participant, as well as those answered by a staff member who knew the participant well, and by his/her attending psychiatrist.

2. Instruments

The following instruments were used to assess the outcomes of the IMR program: 1) the Japanese version of the Patient Activation Measure 13 for Mental Health (PAM13-MH) (Fujita et al., 2010b), 2) Recovery Assessment Scale (RAS) (Chiba et al., 2010), 3) WHOQOL-26 Japanese version (World Health Organization, 2008), 4) Japanese version of the IMR scale (Japanese Association of Psychiatric Rehabilitation, 2009), 5) Need for Care scale (Oshima et al., 2000), and 6) Global Assessment of Functioning (GAF) from DSM-IV-TR (American Psychiatric Association, 2003). Each participant completed 1), 2), 3), and 4) (client version) by him/herself, while 4) (clinician version), 5), and participant characteristics/relevant questions were completed by a staff member who knew the participant well, and 6) by the participant's attending psychiatrist. We also asked the psychiatrist to select the participant's diagnosis from F20–29, F30–39, or others based on ICD-10 criteria.

The PAM13-MH was created specifically for people with mental disabilities based on the Patient Activation Measure 13 (PAM13) (Fujita et al., 2010b) which measures patient activation. The present study used the Japanese version of the PAM13-MH, for which satisfactory reliability and validity have been reported. It consists of 13 items that are scored on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree), or 9 (not applicable).

The RAS is used to assess the main aspects of recovery in people with chronic mental disabilities, is mostly used in recovery-oriented intervention studies (Chiba et al., 2010). It comprises 24 items scored on a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Higher scores indicate higher levels of recovery. Chiba and colleagues (2010) reported good reliability and validity for its Japanese version.

The WHOQOL-26 is a brief, 26-item version of the WHOQOL-100, which comprises 100 items. This instrument is scored on a five-point Likert scale, with a higher score indicating a higher QOL (Tazaki and Nakane, 2008). Satisfactory validity and reliability of its Japanese version have been demonstrated. In the present study, we selected two of the 26 items to evaluate overall subjective QOL in the last four weeks; one item assessed general QOL, while the other assessed satisfaction with health, on a five-point Likert scale. Both items have been shown to allow participants to comprehensively evaluate their QOL (Heslegrave et al., 1997).

The IMR scales were developed to assess the outcomes of the IMR program. It consists of 15 items scored on a five-point Likert scale; higher scores indicate higher levels of recovery. Previous studies have reported good validity and reliability of the scales (Marisa et al., 2012). In this study, we used the Japanese versions (Japanese Association of Psychiatric Rehabilitation, 2009).

The Need for Care scale is a part of the Care Assessment Schedule in the Care Management Guideline in Japan (Oshima et al., 2000), assesses social skills necessary for people with mental disabilities as well as social behaviors that complicate their social lives. The scale consists of three categories: "Capability of independent life," with 6 sections comprising 18 items; "Crisis management," comprising two items; and

"Social behaviors which require care," comprising four items. The scale is scored on a five-point scale, with higher scores indicating more support or care needed.

Attending psychiatrists evaluated global functioning using the GAF, which gives a summary score of psychological, social, and occupational functioning on a scale ranging from 1 (most severe impairment) to 100 (superior functioning) (Yamauchi et al., 2001). The validity of this instrument has been shown to be satisfactory.

Participant characteristics and related items included age, sex, history of hospitalization in psychiatric wards, types of residence (*e.g.*, living with family, living by themselves, group home), and diagnoses.

3. Program fidelity

The IMR fidelity scale was utilized to assess the degree of implementation of IMR. A pair of researchers (two of the second and third authors and a research assistant) observed IMR group sessions at participating centers and interviewed staff members and participants between March and June 2013. Both scored the IMR fidelity scale (Japanese Association of Psychiatric Rehabilitation, 2009) independently. To resolve any discrepancies, the fidelity raters reconsidered their rating outcomes until a final consensus was reached.

4. Implementation strategies

To ensure the quality of the IMR program, we adopted several implementation strategies (Stirman et al., 2016). One or two staff members of each collaborating center attended two half-day training seminars on how to carry out the IMR program. We then asked the staff members to attend bi-monthly group supervision sessions to receive technical support in carrying out the IMR program during the period of program implementation. We also offered individual consultations via telephone or e-mail as necessary.

In addition, in our previous study, we developed the IMR-L handouts, *i.e.*, the Lutheran College version of IMR handouts that are culturally relevant to and consistent with the Japanese social system, with permission from Dr. Kim Mueser, the main creator of the IMR program (Fukushima et al., 2010). The collaborating centers were provided with handouts for all participating clients.

5. Implementation of the IMR program

Each recruited center held an explanatory session for users who showed interest in participating in the IMR program.

Each center implemented the IMR program at its own pace. The IMR program was provided with nine themes; throughout the program, participants were reminded of their recovery goals. At the end of each session, staff assigned homework to participants, which was relevant to the individual recovery goal and/or session's theme. Program sessions were provided in a small group, and each session typically lasted for 70–100 minutes including a break.

6. Data analyses

For the outcome study, analysis of variance (repeated measurement) was used to examine differences in the mean scores of measurements completed by participants, staff members, and attending psychiatrists before, immediately after, and three months after the program in order to assess the outcomes of the IMR program. We used the Tukey's method for multiple comparisons. Data analyses were performed using IBM SPSS Statistics version 23 (IBM, Armonk, NY, USA). $p < 0.05$ was considered statistically significant (two-tailed test).

For the feasibility study, fidelity scores were calculated. The interviews with staff and clients were transcribed to texts and were categorized under each item of the fidelity scale and overall evaluation, to review and explore further the detailed implementation of the program.

7. Ethical consideration

The Ethics Committee of Japan Lutheran College reviewed and approved the study protocol. To preserve anonymity, the questionnaires were

completed and returned on a voluntary basis without providing any information regarding the participant's identity. Three types of questionnaires per participant were connected with participant IDs. A correspondence table to match IDs with individual participants was created and kept under lock and key by the staff in each participating center.

III. Results

Twenty-three clients agreed to participate in the IMR program, including three dropouts. The mean age of the participants was 42.0 (standard deviation = 8.1) years. Of the 20 participants, 14 were male (70.0%), and 16 (80.0%) and 4 (20.0%) had been diagnosed with schizophrenia and mood disorders, respectively; 14 (70.0%) lived with their families, 4 (20.0%) lived by themselves, and 2 (10.0%) lived in group homes.

The average number of IMR sessions attended by the participants was 16, and the average number of IMR sessions conducted by the collaborating centers was 20. Three dropped out of the program and three did not complete the survey immediately after and three months after the program. The respective reasons for dropping out, were re-hospitalization, a feeling of uneasiness to talk about the topic of biological factors in mental disabilities, and a feeling that the IMR program made the person introspective, pushing him/her to become inactive and unmotivated to work further. In addition, the third person found the program overwhelming due to the amount of information given.

Table 1 presents the results of the outcome study. The program had a statistically significant effect on GAF scores ($F(2, 26) = 3.96$, $p = .03$). The mean GAF score was significantly higher three months after the program compared with that before the program ($p = .03$). A statistically significant effect of time was observed concerning the care needs in crisis situations measured by the Need for Care scale ($F(2, 38) = 3.48$, $p = .04$). Participants scored higher on "crisis management" after the IMR program compared

to before participating in the program ($p = .04$). This suggests that skills to deal with crisis situations improved after the program.

Table 2 shows the fidelity scale scores of each participating center. Centers A and B started the first session of the program in December 2012 and ended in April and May 2013, respectively. Centers C and D started their first sessions in January 2013 and ended in July and August 2013, respectively. Among the four centers, three received a score of 1 on the IMR fidelity scale for "involvement of significant others" and "cognitive behavioral methods." With some exceptions, most items received a score of 5. Consequently, average fidelity scale scores fell between 4.5 and 5.0 for 11 items, and 1.5 and 2.0 for "involvement of significant others" and "cognitive behavioral methods," respectively.

In order to further analyze the barriers for the IMR program, we reviewed details of the interview data focusing on items which had low fidelity scale scores.

Regarding "the involvement of significant others," three of four centers reported concrete examples of significant others (*e.g.*, psychiatrists, parents, siblings, and agency staff) being involved in IMR program-related activities; however, these examples applied to less than half of the participants. On the other hand, one center reported the lack of involvement of significant others for all participants.

As for "cognitive behavioral methods," at one center, social skills training and relaxation training were provided during the session especially at the latter part of the program. At another center, a cognitive reframing technique was utilized for clients whose comments appeared to be dysfunctional in relation to their daily lives. The other center held a session with social skills training once. Only one of the four centers reported that behavioral techniques were never utilized. All centers reported that they applied the cognitive behavioral technique in less than half of the sessions.

The staff members reported a high level of comfort and satisfaction with implementing the

Table 1 Outcomes of the IMR-L Program

Measurements		n	SS	df	MS	F	p	Before M (SD)	After M (SD)	Follow-up M (SD)
PAM13-MH		20	46.8	2	23.38	0.52	0.60	44.4 (13.9)	45.0 (12.7)	42.9 (16.3)
	Error		1706.6	38	44.91					
RAS		19	137.7	2	68.86	1.91	0.16	76.2 (15.3)	73.1 (15.9)	76.5 (15.3)
	Error		1301.6	36	36.16					
WHOQOL-26		20	0.2	2	0.12	0.07	0.94	5.0 (1.4)	4.9 (1.9)	5.0 (1.3)
	Error		65.8	38	1.73					
IMR scale client ver.		20	22.9	2	11.47	0.80	0.46	48.4 (5.1)	47.0 (5.8)	48.2 (6.8)
	Error		543.7	38	14.31					
IMR scale clinician ver.		20	5.2	2	2.60	0.20	0.82	50.7 (5.0)	50.2 (7.8)	50.9 (7.0)
	Error		497.5	38	13.09					
Need for care		20	0.3	2	0.16	0.79	0.46	2.5 (1.0)	2.3 (0.9)	2.5 (0.8)
(Personal care)	Error		7.6	38	0.20					
Need for care		20	0.2	2	0.11	0.43	0.65	1.6 (0.9)	1.7 (1.1)	1.8 (0.9)
(Safety management)	Error		9.9	38	0.26					
Need for care		20	0.8	2	0.39	1.20	0.31	2.4 (1.3)	2.2 (1.2)	2.2 (1.3)
(Health management)	Error		12.2	38	0.32					
Need for care		20	0.8	2	0.52	1.28	0.29	1.9 (0.9)	1.6 (0.5)	1.8 (0.5)
(Using social resources)	Error		11.6	29	0.40					
Need for care		20	0.0	2	0.01	0.07	0.94	2.2 (0.6)	2.2 (0.6)	2.2 (0.5)
(Interpersonal relationship)	Error		7.4	38	0.20					
Need for care		20	0.1	2	0.05	0.12	0.89	2.1 (0.7)	2.0 (0.9)	2.1 (1.0)
(Social role/time management)	Error		16.2	38	0.43					
Need for care		20	1.6	2	0.79	3.48	0.04	2.7 (0.9)*	2.3 (0.7)*	2.6 (0.9)
(Crisis management)	Error		8.6	38	0.23					
Need for care		20	0.0	2	0.00	0.01	0.99	1.9 (0.7)	1.9 (0.7)	1.9 (0.7)
(Social behaviors)	Error		4.5	38	0.12					
GAF		14	537.3	2	268.67	3.96	0.03	50.1 (7.2)*	53.7 (11.9)	58.9 (11.8)*
	Error		1764.7	26	67.87					

Note. Analysis of variance (repeated measurement).

PAM13-MH = Patient Activation Measure 13 for Mental Health (scores: 0–100).

RAS = Recovery Assessment Scale (scores: 24–120). WHOQOL-26 (scores: 1–5)

IMR = Illness Management and Recovery (scores: 15–75). Need for care (scores: 1–5).

GAF = Global Assessment of Functioning (scores: 1–100).

*$p < 0.05$ (Tukey's method for multiple comparisons)

program although they found it difficult to assign appropriate homework relevant to individual recovery goals and/or content of the sessions, and to have significant others involved in the IMR program-related activities throughout the program. The participants reported that they acquired new skills and knowledge through participating in the program, and that interaction with other members in the group had positive effects on them.

IV. Discussion

The present study confirmed the preliminary effects and the feasibility of implementing the IMR program at continuous employment support centers in Japan

Notably, participation in the IMR program was

Table 2 Fidelity Scores of Each Participating Center

Center	Number of participants	Period	Comprehensiveness of the curriculum	Handouts	Involvement of significant others	IMR goal setting	Follow-up for goals	Strategies based on motivational methods	Educational methods	Cognitive behavioral methods	Coping skills training	Relapse prevention training	Behavior adjustment for psychopharmacological treatment
A	5	5	5	5	1	5	5	5	5	3	5	5	5
B	5	5	5	5	1	5	5	5	5	1	5	5	5
C	5	4	5	5	5	5	5	5	5	1	5	5	5
D	5	5	5	5	1	5	5	5	5	1	5	5	3

Note. IMR fidelity scale (scores: 1–5)

associated with improved functioning on GAF. GAF was evaluated by psychiatrists, to whom each client brought the questionnaire one by one. This promising result is also consistent with a previous report (Fujita et al., 2010a), suggesting that the IMR program positively affected participants in leading their lives and showing improvements to their psychiatrist.

Needs of crisis management were decreased after program participation, suggesting improvements in dealing with crisis situations. Having recovery goals and plans for relapse prevention likely allowed participants to ponder various options for their future, which might, in turn, have led them to acquire a readiness to deal with crisis situations. However, most of the scales showed no significant improvement. In particular, subjective scales did not show any improvement in all aspects. This could be due to the relatively short length of the IMR program in this study. Although the duration of each session was typically about 85 minutes, the length of the program in the present study was about 5 months, as compared to 10 months to one year in previous studies (Levitt et al., 2009; Färdig et al., 2011).

Overall, the fidelity scale scores were very high. This suggests that, with the provision of specific training and supervision throughout the first trial of the IMR program, all continuous employment support centers were able to carry out the IMR program for their clients as originally intended.

Although scores of the fidelity scale were relatively high overall, scores for having the relevant person involved were relatively low. This item requires "more than 50% of the participants to have significant others involved in IMR sessions or homework" to score "5" on the scale. Although most of the centers had some participants having significant others involved in the activities related to their recovery goals and the IMR program, the degree and frequency of encouragement from staff members might have been insufficient. In addition, the interview data revealed the difficulty of assigning suitable homework for each participant, which might have resulted in the low level of involvement of significant others.

The scores for providing cognitive behavioral methods were relatively low. As revealed by the observation of IMR sessions and the interviews, some staff members tend to strictly follow handout sentences, which are very informative with many questions which require individual answers, and which might have resulted in a paucity of time to utilize cognitive behavioral methods. Moreover, the relatively low dissemination level of cognitive behavioral approach in Japan,

as well as the lack of opportunity to receive appropriate training among staff, might have contributed to the low scores. In this context, the use of cognitive behavioral methods was likely difficult for staff members who had only received short-term pre-training.

Program retention rates, as defined by the number of participants who attended more than half of the IMR sessions, were relatively high in all four participating centers, with an overall rate of 83.6% (20 of 23 clients). This result can be attributed to a combination of factors, including the use of IMR-L handouts, the voluntary nature of study/program participation, and provision of on-going supervision and consultation for participating centers.

The findings of the present study support the feasibility of implementing the IMR program in continuous employment support centers in Japan. Provision of pre-training for staff and on-going supervision appeared to be helpful in implementing the program in this particular setting. Additional consultations by e-mail or telephone were requested at least once—usually a few times—by each center. Thus, providing consultations on a regular basis appeared to be helpful and desirable.

There are several limitations to this study. First, the sample size was very small, and there was no control group. In addition, ratings of the IMR scale (clinician version), Need for Care scale and GAF were not obtained through blinded interviews, but rather from clinicians who were familiar with the clients. Therefore, the ratings may have been biased. Despite these limitations, the present study showed that implementation of the IMR program may be a meaningful approach in continuous employment support centers in Japan, and helps them take control over their disabilities. Although we provided pre-training and supervision sessions to staff—predominantly social workers—of the participating centers, the IMR program was new to them, and the data reported here are from those early treatment experiences. Finally, studies with more rigorous research methods should be conducted in

the future. A thorough examination of the effects of the program in continuous employment support centers will require replicate studies in different municipalities. More appropriate training and experience with the IMR program would also allow those centers to implement the IMR program effectively and properly.

V. Conclusion

In summary, the present study supports the preliminary effects and feasibility of implementing the IMR program for clients with mental disabilities who receive services at continuous employment support centers in Japan.

Acknowledgements

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