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Research Protocol

Inter-Personal Factors Related to the Recovery Stages of Community-Dwelling Individuals with Schizophrenia

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Abstract

This study aimed to analyze the influence of interpersonal factors on the recovery stages of individuals diagnosed with schizophrenia, including the differences between adapted health/welfare services. A total of 230 participants with schizophrenia were recruited based on the same data set in a previous Japanese original article [1]. Recovery stage was evaluated using the Self-Identified Stage of Recovery-Part A (SISR-A) and occupational situations (day-care users, occupational support users, and employees based on the Act on Employment Promotion of Persons with Disabilities), self-stigma (Link's scale) and cognition of an emotional support by interpersonal network using the Emotional Support Network Scale (ESNS) were assessed. All the ESNS subscales' scores and the Link's scores were significantly different among the five SISR-A stages. The results indicated that higher recovery stage was associated with higher recognition of emotional support from others, and lower self-stigma. However, employment status of participants was not necessarily required for improving recovery stages.

Keywords: *Recovery; Employment; Stigma; Emotional Support*

Since the 1980s, the concept of "recovery" [2] has been defined according to the paradigm shift from the traditional medical model to the biopsychosocial model (i.e. based on the level of functioning and away from impairment, disability, and handicap) in the mental health/welfare and psychiatric rehabilitation field. Especially in Japan, several problems have been identified in psychiatric health care and welfare, both nationally and internationally, such as a greater amount of inpatient care, long-term hospitalization and the possible violation of human rights [3]. Several suggested factors inhibiting the quality of life (QOL) of people with psychiatric disorders in the Japanese community such as the lack of social inclusion and an adequate welfare system, self-stigma, and the paternalism of medical or related professionals [4]. These factors can lead to hospitalization, isolation, a decline in self-efficacy, and a secondary "powerless" situation, even for people with psychiatric disorders who are living in the local community. To improve their QOL, it is necessary to clarify the inhibiting and facilitating psychosocial factors for recovery.

Regarding the concept of recovery, Anthony [5] emphasized the process of introducing new aims or meaning to have a life that is full of hope and satisfaction during recovery from a mental illness, rather than after the illness being completely cured. Ragins [6] constructed the recovery process as follows: hope, empowerment, self-responsibility and having a social role. Recent reviews described a stage model

of recovery from schizophrenia [7] and a conceptual framework for personal recovery [8]. Based on the findings, the present study conceptualized the central of the personal recovery as "living a meaningful and contributing life beyond the catastrophic effects of the illness" [9]. Especially, the occupational situation is one important factor to regulate self-efficacy or QOL and it is speculated that an opportunity of having regular work or job training must affect recovery level. Therefore, the present study aimed to identify the actual relationship between differences between adapted health/welfare services (such as employment status) and the recovery stages of persons with mental disorders in the community.

In addition, related studies have indicated the associations with human relationships or interpersonal factors on recovery. Several domestic reports have suggested that the experiences of peer support, marriage, or friendship, or support from an emotional support network (i.e. communication, optimism, acceptance, disclosure, and interpersonal relationships) are associated with the level of recovery [10,11]. In fact, our Japanese report [1] indicated that the dimensional recovery scores were related to the Human Emotional Support Network Scale [12] for an assessment of interpersonal factors. Therefore, this ESNS, described in the Methods section, was used in this survey to examine whether it confirms the previous finding regarding categorical recovery stages.

Aim of the Study

The aim of the study was to clarify the relationship of interpersonal factors on the recovery stage of people with schizophrenia by including differences in their occupational situations, self-stigma, and cognition of an emotional support network. This short article conducts different analysis based on the same data set which was used in the previous main paper in Japanese [1]. It was hypothesized that the recovery stage would differ among the various social situations (i.e. users of day-hospital care, occupational support users from the official welfare system, and usual employment workers) and that the recovery stage would change according to lower self-stigma and higher cognition of an emotional support network.

Method

Participants

People with schizophrenia, living in the Kanto area (around the capital), were recruited from the users of day-hospital care by the official health services, users of employment training welfare service operators (called B type based on the Services and Supports for Persons with Disabilities Act), workers who were employed at the A type welfare service operators (special employment of people with disabilities based on the Services and Supports for Persons with Disabilities Act), or workers in companies (based on the Act on Employment Promotion of Persons with Disabilities). Included participants were 20 - 65 years of age and were outpatients with almost stable psychiatric symptoms, who had substantial insights into their illness and sufficient ability to provide informed consent. Exclusion criteria were as follows: comorbidity with an intellectual disability, developmental disorders, dementia, and the inability to comprehend the questionnaires. Finally, 101 participants were included in the day-care group, 136 were included in the training group (i.e. those in the employment training services or in the B type of the welfare service operators), 64 were included in the transitional group (those employed in the A type of the welfare service operators) and 29 were in the employed group. The researchers obtained permission by administrators of respective centers, operators, or companies to conduct the anonymous investigation.

Procedure

The following anonymous questionnaires and instructions were delivered to users who agreed to participating in the study by the managers of each center or the operators. Sociodemographic data that were collected included the participant's age, gender, and onset of illness [1].

Self-identified stage of recovery-Part A

The Self-Identified Stage of Recovery (SISR) is a two-part scale that assesses both stages of recovery (SISR-A and -B) and it was developed by Andresen., *et al* [7]. The SISR-A is based on a five-stage recovery model that includes "moratorium", "awareness", "preparation",

"rebuilding" and "growth". The earliest stage (i.e. the moratorium) refers to a time of withdrawal that is characterized by a profound sense of loss and hopelessness. The final stage (i.e. growth) refers to a time of living a full and meaningful life that is characterized by self-management of the illness, resilience and a positive sense of self [13]. The SISR-A is a single-item measure that requires the selection of the most applicable of five statements that represent each stage [13]. The fair test-retest reliability and good concurrent validity of the Japanese version have been confirmed by Chiba., *et al*. [14,15] for persons with a chronic mental illness. The present study used the scores of 1 to 5 to represent the five-stage recovery model (i.e. moratorium = 1, awareness = 2, preparation = 3, rebuilding = 4 and growth = 5).

Link's devaluation and discrimination scale

Stigma plays a prominent role in impairing the social functioning of people with mental illness. The concept of the perception of societal devaluation and discrimination was originated by Link., *et al*. [16,17] in the development of the modified labeling theory. Link's Devaluation and Discrimination Scale (DDS) evaluates two aspects of stigma: perceptions of devaluation and discrimination, and social withdrawal because of perceived rejection. Devaluation and discrimination refer to concern for what most other people think about the identified person as having a mental illness, while self-stigma can be conceptualized as a psychological process that includes perception, anticipation, and interpretation by the stigmatized individual [18-20]. The Japanese version of this scale was developed by Hasui., *et al*. [21] and Shimotsu., *et al*. [22] examined its reliability and validity. The Japanese version of Link's DDS contains 12 items (each responded to on a four-point scale) and a one-factor total score that indicates the level of perceived devaluation and discrimination.

The ESNS

Munetaka [12] developed the ESNS to rate the level of the perception of emotional support from others around us, and it can be used to measure the cognition of a psychological support network inside or outside the family (i.e. in the workplace, day-care center, or service office). The ESNS consists of 10 items (0 or 1 points), and the total score represents the level of recognition of an emotional support network (i.e. the individual perceives the network as valid and that they are supported by others = over 8 points, not sufficient = 6 - 7 points, and the individual has given up expecting support = less than 5 points). It is a Japanese self-rating scale, and its reliability and validity have been confirmed by the original author. The present study examined three areas of the ESNS including support from the family, centers/offices/workplaces, and others (i.e. friends or private relationships).

Analysis

To identify the relationships between recovery stages and differences among adapted health/welfare services, chi-square tests or Fisher's exact test were conducted. And analysis of variance (ANOVA) was used to compare dimensional variables (the Link's scale scores and the 3 subscale scores of the ESN) between 5 recovery stages by the SISR-A.

Ethics

This study was approved in 2018 by the Institutional Ethics Committee of the Juntendo University, and informed consent was obtained from each study participant who returned a questionnaire. The privacy of the study participants was strictly protected. The study was conducted according to the ethical principles of medical research involving human subjects of the World Medical Association's Declaration of Helsinki.

Results

Comparisons of ratios for categories of adapted health/welfare services among the 5 recovery stages by the SISR-A are indicated in table 1. There were no significant association between differences among adapted health/welfare services and recovery stages.

The comparisons of dimensional variables (the Link's scale scores, 3 subscale scores of the ESN) among 5 recovery stages by the SISR-A are indicated in table 2. The link's scores ($F = 3.5$) and the scores of the family, centers/offices/workplaces and others by the ESN ($F = 7.8$, 6.5, 4.1, respectively) were significantly different among the 5 recovery stages by ANOVA ($p < .01$).

			SISR-A					Total
			1	2	3	4	5	
Differences between adapted health/welfare services	1	n	16	20	27	24	14	101
		%	4.8%	6.1%	8.2%	7.3%	4.2%	30.6%
	2	n	16	27	41	39	13	136
		%	4.8%	8.2%	12.4%	11.8%	3.9%	41.2%
	3	n	11	7	16	21	9	64
		%	3.3%	2.1%	4.8%	6.4%	2.7%	19.4%
	4	n	6	6	6	6	5	29
		%	1.8%	1.8%	1.8%	1.8%	1.5%	8.8%

Table 1: *Differences of recovery stages among adapted health/welfare services.*

n.s: Chi-square test/Fisher's exact test.

SISR-A: Self-Identified Stage of Recovery-Part A.

Adapted health/welfare services: 4 (the employed group), 3 (the transitional group), 2 (the training group), 1 (the day-care group).

Discussion

In the context of living with a mental illness, recovery is the process of rebuilding a meaningful life and an influential way of understanding how to manage one's life after the experience of psychosis [23,24]. The present study revealed that recovery was different depending on occupational situations, such as being employed or not. Social functioning was represented at various levels, that is, users of day-care rehabilitation, users of employment training by welfare operators, transitional workers by welfare operators and workplace employers. The results indicated that recovery was not only associated with occupational status but also the person's interpersonal factors including the emotional support network around us. Especially, the recognition of emotional support from others was linked with SISR-A scores. Interpersonal relationships among family, friends, or others in day-care or workplaces may be important for facilitating the recovery of people with mental illness. In fact, to promote recovery, improvement in the management of one's mental health [25], peer support [26], vocational rehabilitation [27] and social relationships [28] have been demonstrated to be important factors. Chan., *et*

Variables	SISR-A	N	Mean	SD	ANOVA (post hoc test)	
					F	P
ESN-1 (the family)	1	49	3.71	3.553	7.806	0.001***
	2	60	6.83	4.365	(Scheffe, F)	
	3	90	6.82	3.391	1<2	-3.013*
	4	90	6.91	3.643	1<3	-3.124*
	5	41	7.12	3.703	1<4	-3.304*
	Total	330	6.42	3.863	1<5	-3.365*
ESN-2 (centers/off ices/workplaces)	1	49	4.82	3.534	6.48	0.001***
	2	60	6.70	3.228	(Scheffe, F)	
	3	90	7.16	2.557	1<2	-1.917*
	4	90	7.08	3.102	1<3	-2.395*
	5	41	7.78	2.885	1<4	-2.163*
	Total	330	6.78	3.136	1<5	-2.884*
ESN-3 (the others)	1	49	3.53	3.703	4.1	0.003**
	2	60	5.63	7.669	(Scheffe, F)	
	3	90	4.94	4.032	1<4	-2.707*
	4	90	6.21	3.896		
	5	41	5.83	4.116		
	Total	330	5.32	4.888		
Link	1	46	35.63	6.774	3.524	0.008**
	2	60	32.82	6.863	(Scheffe, F)	
	3	90	32.36	7.479	1 > 5	5.488*
	4	92	32.13	6.870		
	5	42	30.14	7.172		
	Total	330	32.55	7.173		

Table 2: *Comparisons of dimensional variables among SISR-A stages.*

**: p < .05, **: p < .01, ***: p < .001; SISR-A: Self-Identified Stage of Recovery-Part A.*

ESN: The emotional support network scale, Link: The Link's Devaluation and Discrimination Scale.

al. [29] also suggested that longer periods of employment and planned medication discontinuation during the initial three years was a predictor of complete recovery. In addition, vignettes of change, peer support, and signs of recovery in the face of crises may be a great benefit for outpatients [30]. Importantly, Cavelti., *et al*. [31] indicated that lower therapeutic alliance mediated the association between psychotic symptoms and recovery style. The relationship with doctors or staff members can support the recovery of users, and thus, means of promoting these relationships through one on one sessions care plan and goal setting must be considered. The perception of emotional support from others, including mental health professionals and social relationships, might improve the recovery of people with mental illness.

As expected, self-stigma was related to the recovery of individuals with schizophrenia in communities. Link's DDS is based on the modified labeling theory, which involves the stigma-related perceptions of devaluation, discrimination, rejection, or social withdrawal [16]. Therefore, these sorts of self-perceptions or expectations from others might play a prominent role in reducing self-efficacy or esteem. To achieve recovery, social support is important in contributing to the improvement of understanding and inclusion in a community. One recent study reported that patients with schizophrenia with high levels of internalized stigma showed low levels of functional recovery [32]. As mentioned above, the author has replicated findings of associations among recovery dimensions using the recovery assessment scale, self-stigma and emotional support network [1]. It is important both for a level and a stage in recovery to consider interpersonal psychosocial factors.

This report presents restricted measures or variables, and one limitation of our study concerns its reliability regarding the use of self-rating surveys for people with psychiatric disorders. Cross-cultural or social differences, such as alterations in the welfare services or mental health systems of this study must be noted. The questionnaire that was used in this study to assess the emotional support network has not been used in other countries yet. Thus, a validated instrument should be applied in future studies. Comprehensive evidence from qualitative research using consumer or user-oriented methods, could contribute to achieving better recovery for people with mental illness [33-35].

Conclusion

Higher recovery stage was associated with higher recognition of emotional support from others, and lower self-stigma. However, employment status of participants was not necessarily required for improving recovery stages.

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