Effect of PEPS on Empowerment, Internalized Stigma, Self-esteem and Quality of Life of People with Chronic Schizophrenia in Rural area

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PEPS가 농촌의 만성 조현병대상자의 능력강화, 내재화된 낙인, 자존감 및 삶의 질에 미치는 효과

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Abstract This study was designed to evaluate effects of Patients Empowerment Program for Schizophrenia (PEPS) on Empowerment, Internalized Stigma, Self-esteem, and Quality of Life, in people with chronic schizophrenia living in a rural community. A non-equivalent control group repeated measures design was used. Participants were 22 persons with chronic schizophrenia enrolled from O Province Mental Health Welfare Center, South Korea. (experimental group= 10, control group = 12). The PEPS was administered to the experimental group, consisting of 16 sessions delivered twice a week for 8 weeks. SPSS/WIN 26.0 was used to analyze the collected data using x^2-test, independent t-test, Fisher's exact test, and repeated measures ANOVA. Upon completion of PEPS, the experimental group showed a significantly increased in Self-esteem (F=6.09, p=.005) and Quality of Life (F=3.37, p=.044) as compared to the control group. However, there was no significant difference between the two groups between Empowerment and Internalized Stigma. The results suggest that the PEPS may be an effective intervention for improving Self-esteem and Quality of Life.

Key Words : Schizophrenia, Empowerment, Quality of life, Psychosocial intervention, Rural health service

요 약 본 연구는 농촌에 거주하는 만성 조현병 대상자에게 조현병 환자를 위한 능력강화프로그램(PEPS)을 제공하고 능력 강화, 내재화된 낙인, 자존감 및 삶의 질에 미치는 효과를 파악하기 위한 비동등성 대조군 반복측정설계를 이용한 유사실험연구이다. 연구 대상자는 O지역의 정신건강복지센터에 등록된 만성 조현병 대상자 22명(실험군: 10명, 대조군 12명)이다. 실험군에게는 8주동안 주 2회, 총 16회기로 구성된 PEPS를 제공하였다. SPSS/WIN 26.0을 이용하여 x^2-test, independent t-test, Fisher's exact test 및 repeated measures ANOVA로 수집된 자료를 분석하였다. 연구 결과 실험군은 자존감 (F=6.09, p=.005) 및 삶의 질(F=3.37, p=.044)이 대조군에 비해 개선된 것으로 나타났지만, 능력강화와 내재화된 낙인에 유의한 차이가 없었다. 이러한 연구 결과는 PEPS가 대상자의 자존감과 삶의 질을 향상하는데 효과적인 개입이 될 수 있음을 나타낸다.

키워드 : 조현병, 능력강화, 삶의 질, 심리사회적 중재, 농촌 보건 서비스

1. Introduction

1.1 Background

Schizophrenia is a common serious mental illness affecting 0.32% of the world's population, including 0.45% of adults [1]. People with schizophrenia are unable to maintain interpersonal relationships due to psychotic symptoms that include impairments in cognition, perception, emotion, behavior, and socialization, and become severely disabled and isolated from society [2]. Thus, the prevalence of schizophrenia is not high, but it is a disease that not only diminishes the quality of life of people with schizophrenia due to poor functioning and chronic progression, but also has a very high socioeconomic cost burden on the family and the community [3]. Even when they recover from various psychiatric rehabilitation treatments, the stigma of being mentally ill makes it difficult for them to socialize [4]. In addition, in the process of overcoming stigma, the target individual may experience negative experiences in professional and social settings, leading to lower self-esteem, decreased mental health recovery, and indirectly a lower quality of life for the target individual [4]. In the past, the goal of schizophrenia treatment was to reduce or eliminate psychiatric symptoms, whereas today the focus is on restoring the person's social functioning and ultimately improving their quality of life [5,6]. In Korea, the Mental Health and Welfare Act was revised in 2017 to reflect changes in treatment goals for people with schizophrenia, and abroad, the direction of mental health policy after deinstitutionalization is toward recovery for people with schizophrenia. Thus, many people with schizophrenia in Korea and abroad are treated in the community [7]. Due to social relationships, social prejudices, etc., people with schizophrenia living in the community experience many difficulties in their socialization. Empowerment is essential to overcome these challenges and enable people to live in the community, and it is important to empower people because empowered people are better socialized and have a positive impact on schizophrenia treatment outcomes [8].

The focus on empowerment began with the discovery that empowerment was one of the most important factors in the quality of life of people with schizophrenia. [6]. Empowerment originated in political science and sociology, and the concept is now widely used in a variety of contexts [6]. The concept of empowerment has come to occupy an important place in the concept of recovery for people with schizophrenia, who are often marginalized and powerless in the face of repeated exacerbations and improvements [6]. In the context of mental health, empowerment is the process of overcoming negative experiences and refers to a person with mental illness having a sense of control over their mental illness, acknowledging their deficits but also valuing their roles or abilities and believing that they can be optimistic and in control of their future, and not fearing disregard, prejudice, discrimination, or double standards by the general public toward people with mental illness [9]. It also refers to the empowerment of the individuals as an independent human beings to change their intrapersonal, interpersonal, and social aspects, a concept that has recently been emphasized in relation to quality of life and recovery [10, 11]. In other words, empowered individuals are more likely to be able to withstand and resist continued social stigma and discrimination, overcome the stigma of mental illness, and improve their life satisfaction [6,9]. Therefore, empowerment, which improves the self-esteem of people with schizophrenia and gives them the potential power or will to overcome intrinsic stigma, is crucial for the psychological rehabilitation of people with schizophrenia [6].

People with schizophrenia are psychologically and socially disadvantaged and isolated themselves from society, and as a result of these negative outcomes, internalized stigma develops [12]. Internalized stigma can affect every aspect of a person's life with schizophrenia and may be a risk

factor for a continued illness or other harmful outcomes [12]. It can also be associated with negative emotions such as low self-esteem and anxiety [12]. Schizophrenia is a disease that requires rehabilitation and community support for social adjustment, but in societies with strong social prejudice, such as South Korea, schizophrenia is directly affected by stigma [12]. Stigma may prevent people with schizophrenia from seeking early and appropriate treatment and rehabilitation, and interventions are needed to address this. Self-esteem is a person's belief that he or she is important or worthy of success[13]. For people with schizophrenia, chronic illness can lead to decreased social adjustment, which can lead to decreased self-esteem[14]. This low self-esteem can be improved through training, and a key part of this training is empowering those living with schizophrenia. In addition, self-esteem is an important predictor of quality of life in people with schizophrenia [9] and is closely related to empowerment [10].

The Patient Empowerment Program for Schizophrenia (PEPS) was developed in 2006 at the Medical Foundation Yong-In Mental Hospital under the auspices of the WHO to empower people with schizophrenia to reintegrate into society [15]. Unlike traditional skills programs that focus on medication side effects, understanding of the illness, and social adjustment [10,11], PEPS is designed to provide people with schizophrenia and their families with useful knowledge and up-to-date information about the illness and to promote confidence in self-management [15]. PEPS focuses on finding solutions to problems rather than eliminating the problem itself, and helps people improve their ability to find the information they need about schizophrenia treatment themselves; it helps them find their strengths, build self-belief and possibility, and overcome social stigma [15]. In addition, it differs from existing rehabilitation programs in that it provides opportunities for participants to strengthen their own abilities by

making future plans and preventing problems that may arise due to illness, and most sessions are organized in a discussion style so that participants can share their experiences with each other [15].

Previous empowerment interventions for people with schizophrenia have been shown to improve empathy, quality of life, and self-efficacy [16-18], but they have mainly been conducted with hospitalized patients [16,18] or people with schizophrenia in urban areas [16,17], and systematic and integrated psychiatric rehabilitation programs for people with chronic schizophrenia in rural areas are rare. People with mental illness living in rural areas often do not receive adequate mental health care compared to those living in urban areas due to socioeconomic reasons and lack of mental health facilities, and relatively little is known about them [19]. Furthermore, even in rural areas where mental health facilities exist, they are often located at a greater distance than in urban areas where facilities are more accessible, resulting in a lack of access to timely and appropriate mental health care [19]. However, a precedent research [19] showed that when psychological rehabilitation intervention was provided to chronic mental patients in rural areas, unlike urban areas, the intervention results were better than those in urban areas because the rural society helped the subjects' social relationships and occupational parts to function well.

Based on the results of these previous studies [16-19], this study aims to deliver an empowerment program to people with schizophrenia in a rural community and determine the effects on Empowerment, Internalized Stigma, Self-esteem, and Quality of Life.

1.2 Purpose and Hypothesis

The purpose of this study is to determine the impact on Empowerment, Internalized Stigma, Self-esteem, and Quality of Life after providing PEPS to patients with schizophrenia in rural areas. The specific hypothesis is

• Hypothesis 1: The Empowerment of the experimental group will increase compared to the control group after PEPS.

• Hypothesis 2: The Internalized Stigma of the experimental group will decrease compared to the control group after PEPS.

• Hypothesis 3: The Self-esteem of the experimental group will increase compared to the control group after PEPS.

• Hypothesis 4: The Quality of Life of the experimental group will increase compared to the control group after PEPS.

2. Method

2.1 Study Design

To determine the effectiveness of PEPS, this study is a non-equivalent control group pretest-posttest experimental study.

2.2 Participants and Data collection

The subjects of this study were schizophrenia subjects registered at a local mental health welfare center in O Province, a rural area, who had a desire to participate in the program and voluntarily agreed to participate in the study. Specific inclusion criteria were 1) adult males and females 18-64, 2) chronic schizophrenia diagnosed by a psychiatrist with symptoms lasting more than 2 years after the acute phase according to DSM-5 and receiving outpatient treatment while taking psychotropic medication for symptom management, 3) Global Assessment of Functioning (GAF) score of 51 or more, 4) ability to communicate and read, and no difficulty in completing the questionnaire, and 5) to understand the purpose of the study and to provide written informed consent to participate in the study. Exclusion criteria were 1) diagnosed with an underlying psychiatric disorder (e.g., neurocognitive disorder), 2) diagnosed with a substance-related or addiction disorder (e.g., alcohol-related disorder), 3) unable to complete the survey due to communi-

cation difficulties, and 4) refused to participate in the study.

G*Power 3.1 was used to calculate the number of subjects in this study. Considering previous studies [20], the total number of subjects required was 10, calculated with an effect size (f) = 1.14, significance level (α) .05, power (1-β) .95, correlation coefficient γ = .50, number of measurements 3, and group size 2. However, considering the difficulty in recruiting subjects and the dropout rate due to the long intervention period, we recruited 10 subjects in the experimental group and 12 subjects in the control group. Both the experimental and control groups were enrolled at the mental health welfare center in Region O. The subjects were recruited at different times to prevent the experimental treatment from spreading among the subjects, and the subjects enrolled at the same center or the control group were recruited at home. There were no dropouts during the study. Therefore, data from the 10 experimental and 12 control groups were ultimately analyzed. The recruitment process is shown in Fig. 1.
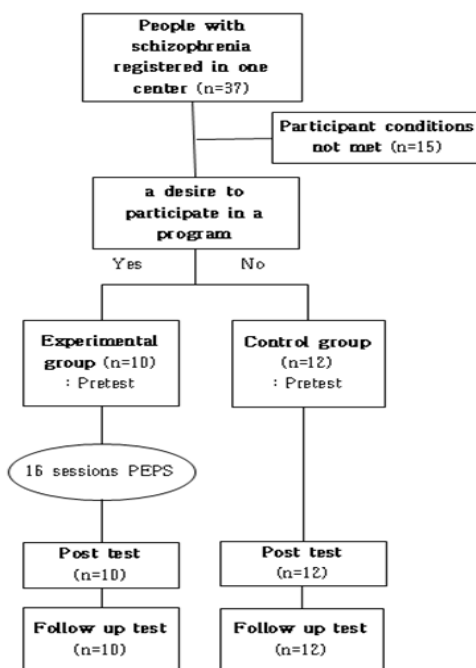

Fig. 1. Program participant recruitment process

Two research assistants with experience in psychiatric hospitals and individual counseling with a large number of mentally ill patients were selected and pre-trained on the contents of this study's questionnaire and how to complete it. The data collection period was from July 23 to October 13, 2020, and home members who had never participated in the center's program were selected as a control group among the center's registered schizophrenia subjects to prevent the diffusion effect of the experimental treatment from threatening the internal validity of the study.

The survey was administered through one-on-one interviews, and the preliminary survey asked about general characteristics, empowerment, internalized stigma, self-esteem, and quality of life. Completed questionnaires were collected immediately and given an identification code. The first post-survey was conducted immediately after the end of the program and the second post-survey was conducted four weeks after the end of the program. The first and second post-surveys were conducted using the same questionnaires as the pre-survey, except for general characteristics of the participants.

2.3 Instruments

2.3.1 General Characteristics

General participant characteristics included demographic characteristics such as age, gender, education level, marital status, occupation, and mental health-related characteristics such as duration of mental illness, current treatment status, and experience with mental health education.

2.3.2 Empowerment

Participants' empowerment was measured using the Korean version of the Empowerment Scale for Psychiatric Rehabilitation developed by Choi et al. [9]. This instrument consists of 25 items in two subfactors: self-empowerment and social empowerment [9]. The total score is 75 points, with higher scores indicating higher levels of empowerment. The

reliability of the instrument was .83 for Chronbach's α in Choi et al.'s study [9] and .92 in this study.

2.3.3 Internalized Stigma

Participants' Internalized Stigma was measured using the Korean version of the Internalized Stigma of Mental Illness Scale (K-ISMI), developed by Ritsher et al [21] and validated by Hwang et al [12]. It consists of 29 items in five subfactors: alienation, stereotype recognition, discrimination experience, social withdrawal, and stigma resistance [12]. The instrument is a 4-point Likert scale. The scale ranges from not at all (0) to very much (3). Higher scores indicate a greater degree of internalizing negative attitudes toward mental illness and a more negative attitude toward self. The reliability of the instrument was .91 for Chronbach's α in the study by Hwang et al [12] and .96 in this study.

2.3.4 Self-esteem

To measure the self-esteem of the subjects, the Self-esteem Scale (SES) developed by Rosenberg [13] was used. This instrument consists of 10 questions with two subfactors: negative self-esteem, positive self-esteem [13]. It is a 4-point Likert scale ranging from not at all (0) to very much so (3), with higher scores indicating higher self-esteem. The reliability of the instrument was .85 for Chronbach's α in Rosenberg's study [13] and .88 in this study.

2.3.5 Quality of Life

The subjects' Quality of Life was assessed using the Happy-QOL scale developed by Kook et al [22] to assess quality of life in patients with schizophrenia. The instrument consists of 25 questions in five subfactors: economic domain, general domain, physical domain, occupational/ social domain and affective domain. The instrument is a 5-point Likert scale ranging from not at all (0) to very much (4). Higher scores indicate higher quality of life. The reliability of the instrument was found to be .882 with a Chronbach's α of .94 in the study by Kook et

al. [22].

2.3.6 PEPS program

The study was approved by the Medical Foundation Yong-In Mental Hospital a WHO Collaborating Centre for Psychosocial Rehabilitation and Community Mental Health and PEPS was conducted.. PEPS recommends 12-20 sessions, approximately 3-5 months in duration, but can be adjusted according to the needs of the institution and twice weekly [15]. The session structure of PEPS in this study is based on the total 26 sessions of the PEPS and previous research [23]. We also conducted a pilot study with 10 participants with schizophrenia enrolled in the center, with a total of 16 sessions based on a structured program. Based on these previous studies and the pilot study, the PEPS in this study consisted of a total of 16 sessions, and the program was conducted for 8 weeks for 1 hour twice a week, considering the conditions of the center. The program was facilitated by an advanced practice nurse in psychiatric who has worked in closed psyc-hiatric wards and mental health welfare centers and has extensive experience in group therapy and individual counseling for people with schizophrenia. In addition, the program facilitator attended the 2019 PEPS workshop and received PEPS performance training.

The program consisted of activities such as training, discussion, and writing assignments. Prior to the program, we reviewed what we had learned in the previous session and then proceeded with the training and sharing of experiences and impressions. Specific topics and content for each session are listed below (Table 1).

2.4 Ethical Consideration

This study was pre-approved by the Institutional Review Board of C University in advance (IRB No. 202001-SB-002-01), and the purpose and methods of the study were explained to the prospective participants, and their written consent to participate in the study was obtained. It was also explained that the data collected during the study would only be used for research purposes and that the rights of the participants would be protected by ensuring their confidentiality and anonymity, that they could stop participating at any time if they did not want to, and that no personal information would be shared or their privacy violated.

2.6 Data analysis

Data were analyzed using SPSS/WIN 26.0 and descriptive statistics for general characteristics and study variables were calculated using frequencies and percentages, means and standard deviations. The x^2 test, independent t-test, and Fisher's exact test were used to analyze the homogeneity of

Table 1. Contents of PEPS

Themes	Session	Contents
Understanding Program	1	Orientation
Mental health care	2	Term definition of Schizophrenia & Facts and Prejudice of Schizophrenia
	3	Crisis management
Disease management plan	4, 5	Drug therapy
	6	Psychotherapy
	7	Living well & Promise preparation
Personal ability development	8	Communication with family
	9	Social contact & Support group
	10	Daily plan
	11	Occupational development
Physical health management	12	Healthy sex life
	13	Alcohol & Cigarette
	14	Diabetes & Hypertension
	15	Health and living habits
Finish	16	Share thoughts & Completion ceremony

general characteristics and dependent variables. Repeated measures ANOVA was used to analyze the effect of the intervention on the dependent variables. When the sphericity assumption was not met (Empowerment), the Greenhouse-Geisser and Huynh-Feldt epsilon values were greater than 0.7 and the epsilon correction method was applied, and when there was an interaction between the measurement period and group, the difference between groups according to the amount of change in each period was analyzed by the independent t-test.

3. Results

3.1 Test for homogeneity of General Characteristics and Variables

Table 2 shows the general characteristics of the experimental and control groups in this study. Mean age of experimental group was 44.50±8.61 years, and mean age of control group was 45.92±12.28 years. By gender, the experimental group had 6 males (60.0%) more, and the control group had 10 females (83.3%) more. The mean duration of illness in the experimental group was 17.10±9.26 years, and the mean duration of illness in the control

group was 19.08±11.08 years. Statistically significant differences in current treatment status and experience with mental health education were found when testing for homogeneity of general characteristics between the two groups (Table 2).

Means for Empowerment, Internalized Stigma, Self-esteem, and Quality of Life are shown in Table 2. Tests for homogeneity of the pre-tests of Empowerment, Internalized Stigma, Self-esteem, and Quality of Life showed no statistically significant differences between the two groups (Table 2).

4.2 Hypothesis test

Table 3 shows the results of the repeated measures ANOVA to understand the effect of PEPS.

When examining Empowerment at the pretest, posttest, and follow-up, the interaction between group and measurement point was not significantly different (F=2.80, p=.073). Therefore, hypothesis 1 was rejected.

When examining Internalized Stigma at pretest, posttest, and follow-up, the interaction between group and measurement point was not significantly different (F=2.71, p=.115). Hypothesis 2 was therefore rejected.

Examining Self-esteem at pretest, posttest, and

Table 2. Homogeneity test of general characteristics and variables between two groups (N=22)

Variables	Categories	Exp.(n=10)	Con.(n=12)	x^2/t(p)
		n(%)/M±SD		
Age(year)		44.50±8.61	45.92±12.28	−.31(.762)
Gender	Male	6(60.0)	2(16.7)	4.43(.074)
	Female	4(40.0)	10(83.3)	
Education level	Middle school ≥	3(30.0)	2(16.7)	1.72(.293)
	High school ≤	7(70.0)	10(83.3)	
Spouse status	Yes	2(20.0)	3(25.0)	.08(1.00)
	No	8(80.0)	9(75.0)	
Job	Yes	1(10.0)	5(41.7)	2.76(.162)
	No	9(90.0)	7(58.3)	
Duration of mental illness		17.10±9.26	19.08±11.08	−.45(.658)
Current Treatment Status	outpatient	2(20.0)	11(91.7)	11.59(.002)
	outpatient+daycare	8(80.0)	1(8.3)	
Education experience (mental health)	Yes	8(80.0)	4(33.3)	4.79(.043)
	No	2(20.0)	8(66.7)	
Empowerment		1.44±0.29	1.11±0.52	1.86(.078)
Internalized Stigma		1.24±0.38	1.56±0.34	−2.07(.051)
Self-esteem		1.50±0.47	1.36±0.37	.073(.471)
Quality of life		1.67±0.61	1.56±0.34	.055(.592)

Table 3. The effects of peps on empowerment, internalized stigma, self-esteem and quality of life   (N=22)

Variables		Exp.	Con.	t(p)	Source	F	p
		M±SD					
Empowerment	Pre	1.44±0.29	1.11±0.52	1.86(.078)	G	16.38	.001
	Post	1.66±0.36	1.02±0.39	3.98(.001)	T	.53	.595
	Follow	1.70±0.29	1.00±0.39	4.65(<.001)	G*T	2.80	.073
Internalized Stigma	Pre	1.24±0.38	1.56±0.34	−2.07(.051)	G	11.47	.003
	Post	1.34±0.43	1.74±0.23	−2.77(.012)	T	5.99	.024
	Follow	1.33±0.42	1.82±0.14	−3.55(.005)	G*T	2.71	.115
Self-esteem	Pre	1.50±0.47	1.36±0.37	.073(.471)	G	7.86	.011
	Post	1.74±0.50	1.35±0.26	2.36(.028)	T	1.38	.264
	Follow	1.86±0.44	1.21±0.21	4.29(.001)	G*T	6.09	.005
Quality of life	Pre	1.67±0.61	1.56±0.34	.055(.592)	G	2.97	.100
	Post	1.72±0.61	1.48±0.23	1.19(.258)	T	.016	.902
	Follow	1.90±0.61	1.32±0.34	2.84(.010)	G*T	6.73	.017

Exp.=experimental group; Con.=control group; G=group; T=time; Pre=pre-test(baseline); Post =post test(8 week); Follow=Follow test(12 week)

follow-up revealed a significant difference in the group by time interaction (F=6.09, p=.005). Therefore, hypothesis 3 was supported.

Examination of Quality of Life at pretest, posttest, and follow-up revealed a significant difference in the interaction between group and time of measurement (F=6.73, p=.017). Therefore, hypothesis 4 was supported.

4. Discussion

This study was conducted to determine the effectiveness of PEPS in rural individuals with chronic schizophrenia. Significant differences between the experimental and control groups were found in Self-esteem and Quality of Life, confirming the effectiveness of the program, but there were no statistically significant differences in Empowerment and Internalized Stigma. This was in contrast to the findings that rural residents had better symptom recovery in psychological rehabilitation interventions than urban residents.

There was no statistically significant difference following PEPS on Empowerment, but there was significant difference following PEPS on subfactor of empowerment. In a study by Lee & Hwang [24] of empowerment programs for chronic psychiatric inpatients, a significant difference in empowerment was found, and in a study by Ko et al. in a day hospital for chronic schizophrenia patients [25], no

significant difference in social empowerment was found. The results of these studies contradicted the results of the present study. Previous studies [24,25] found that by participating in the program, subjects received information about schizophrenia, gained confidence through proper knowledge of the disease and were able to participate in treatment as an equal subject, and improved their self-esteem and assertiveness by developing social activities and improving interpersonal relationships. Based on these previous studies, this study suggests that the participants' social competence was enhanced because the psychosocial intervention helped them develop ways of relating to others, resulting in improved interpersonal skills, and improved social interaction through the acquisition of daily living and social skills.

Internalized stigma was also not significantly different between the two groups, which was consistent with the findings of Wu et al [23] who studied patients with chronic schizophrenia, but different from the findings of a study that found that rural residents were more positive about mental illness and had greater social acceptance [13]. Schizophrenia is associated with greater social and cultural stigma than any other mental illness and, as a result, faces the greatest stigma barriers [4]. In addition, stigma against people with mental disabilities is higher than perceived prejudice in the

general population, so people with mental disabilities internalize more prejudice than actual social prejudice [4]. Lee & Hwang [24] stated that internalized stigma is the result of experiencing actual rejection and discrimination while living in a social and cultural context over a long period of time, so there are limitations in inducing change in participants through educational interventions that are not accompanied by actual life experiences. Based on these previous studies, it is assumed that the participants in this study also experienced internalized stigma over a long period of illness, and that educational interventions alone are limited in inducing change in participants without practical experience. Based on these findings, it is necessary to test the effectiveness of the post-program intervention by adding content that can reduce internalized stigma in future follow-up studies.

The self-esteem of the experimental group showed a significant difference after the program intervention. This is consistent with the results of Kim & Kwon [10], who found that self-esteem improved after an empowerment intervention for people with chronic mental illness. Self-esteem can be improved through training, and higher self-esteem has been shown to have a positive effect on the outcome of treatment for schizophrenia by enabling individuals to perceive themselves as more powerful and to maintain a positive attitude even in a negative environment [6]. This study and previous research suggest that PEPS is a nursing intervention that increases participants' self-esteem.

The quality of life of the experimental group showed a significant difference after PEPS. This result is in line with the findings of Woo et al.[23]. Woo et al. [23] attributed the improvement in quality of life to the interaction between nurses and participants during the program, where participants shared their experiences. In this study, we believe that the participants' quality of life improved because they shared their experiences through the interaction between the facilitator and the participants during the program, and based on this study and previous studies, we provided evidence that PEPS can improve the quality of life of subjects with schizophrenia.

Taken together, the findings of this study have the following implications. Educationally, this study is significant in that it identifies characteristics of Empowerment, Internalized Stigma, Self-esteem, and Quality of Life among people with chronic schizophrenia in rural areas. In terms of nursing research, this study is significant in that it validates the efficacy of PEPS in patients with chronic schizophrenia and confirms its applicability. It also provides evidence that nurses can use as a nursing intervention to improve Self-esteem and Quality of Life in patients with chronic schizophrenia, confirming its applicability in the community.

In terms of nursing practice, the effectiveness of PEPS in improving Self-esteem and Quality of Life was verified, and it is expected to be a useful psychiatric nursing intervention for schizophrenia patients in the community.

Limitations of this study include the following: First, the subjects of this study are a convenience sample of schizophrenia patients enrolled in the O Center in a rural area. In addition, the small number of participants in this study limits the generalizability of the findings to all patients with schizophrenia.

Second, it is difficult to attribute the results of this study to the effect of PEPS alone because participants in this study were not restricted from participating in other programs offered by the mental health center.

Finally, participants with severe psychiatric symptoms may not be able to respond accurately to self-report tests, and the results of this study may be overestimated because only those who voluntarily agreed to participate in the study were selected.

5. Conclusion

In this study, PEPS was found to improve the Quality of Life and Self-esteem of people with schizophrenia. However, neither Empowerment nor Internalized Stigma improved. Although the content of the program included content related to empowerment and internalized stigma, the program was shorter than the original program, and the focus on the relevant variables and duration were not sufficient to improve participants' empowerment and internalized stigma. In addition, the participants in this study experienced internalized stigma over a long period of time, and we believe that a short-term program intervention may not be sufficient to induce change.

Although there was no statistically significant impact on Empowerment and Internalized Stigma after participating in PEPS, participants were positive about the empathy they gained from meeting others under the same conditions as interpersonal relationships they made outside their families. In addition, the majority of participants were positive about learning more about the symptoms of schizophrenia and how to manage them effectively, including taking medication.

Based on the above, we suggest the following. First, because this study selected schizophrenia participants from community, future studies are recommended to recruit schizophrenia participants who receive rehabilitation treatment in different settings, such as hospitals and institutions as well as the community, to verify the effectiveness of the program. Second, because this study did not confirm the effect of PEPS on Empowerment and Internalized Stigma, future studies are recommended to test the effectiveness of interventions that can increase Empowerment and reduce Internalized Stigma in schizophrenia patients.

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