

The Use of Multifamily Discharge Preparation Groups in the Discharge Process of Patients with Schizophrenia

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Background: After acute treatment, patients with schizophrenia return to their original living environment for further rehabilitation, which not only determines the quality of life of the patients and their families but also has an important impact on society. However, patients often find it difficult to adapt to changes in the environment when they are discharged from the hospital. This may be related to the incompleteness of China's mental health service system, as many services for schizophrenia patients are only in the treatment stage. In China, schizophrenia is traditionally associated with poor moral quality, and patients find it difficult to obtain support. Many patients have trouble reintegrating into the community after treatment. Schizophrenic multifamily teams gather families affected by the same illness and pain together to promote healing together in an environment that allows mutual sharing, understanding and transparency, maximizes the use of family resources for support, improves discharge readiness, and better deals with post-discharge recovery.

Methods: The multifamily group intervention method was used to improve the motivation of the patients' family motivation as well as the discharge readiness and self-efficacy of the patient.

Results: After the intervention, the motivation of the family and discharge readiness of the patient were improved compared with that of the baseline period; however, the improvement was not significant. The self-efficacy of the patients was significantly improved ($P=0.042$).

Conclusions: In the discharge preparation of schizophrenia patients, multifamily teams can be used to help patients and their families share resources, enhance support and prepare for discharge. Patients will have better support following discharge for recovery in the community. Additional consideration should be given to the impact of the environment on patient services, and the evaluation of the service process is key to continuously improving the service effect.

Keywords: schizophrenia multifamily discharge group

Background

Schizophrenia is a clinical syndrome in which the core clinical features are delusions, hallucinations and thought disorders; its characteristic symptoms and severity are related to lack of insight,¹ communication impairment, lack of comprehensibility of symptoms and reduced social adjustment abilities.² Schizophrenia is characterized by high recurrence and disability rates, with a recurrence rate of approximately 44.0% to 70.5%, and it has one of the highest disease burdens among the mental disorders.³⁻⁵

After patients with schizophrenia have been treated in the acute phase and their symptoms have been relieved, they transition from the hospital to the community and enter into a consolidation and maintenance phase.⁶ However, schizophrenia patients face a long road to recovery. Multiple meta-analyses have shown that higher levels of positive factors, such as social support, resilience, and optimism, have significant beneficial effects on health and longevity.⁷ However, in China, the acute treatment and stable rehabilitation of patients are managed by different administrative departments, and rehabilitation services are fragmented. Patients who complete acute treatment in medical institutions often feel confused and worried when discharged. The reality of treatment for many schizophrenia patients in China is

that some patients have difficulty escaping the “revolving door” of repeated hospitalizations and discharges. Therefore, better societal integration of patients after discharge is an important task for mental health workers.

Mental health workers play an important role in facilitating patient recovery, and a series of investigations have been conducted to enhance the efficacy of patient recovery.⁸ Usually, in the treatment of schizophrenia patients, discharge is a fairly complex process which involves communication between both the doctor and the patient about their illness to clarify patient wishes for discharge, prepare the patient for discharge prior to discharging the patient back into the community. The readiness of patients and their families to face a change in the rehabilitation environment at the time of discharge is an important factor in recovery.

Current interventions for families with schizophrenia in China rely on individual family case management as the mainstream approach. Under the framework of the Government Subsidized Local Management and Treatment of Serious Mental Illness Project, mental health social workers or community mental health doctors regularly visit the families of patients with schizophrenia for case management.

However, under the current Chinese mental health system, implementing individual family interventions may not be the most appropriate approach. On the one hand, the medical institution-centered mental health service system is imperfect, and mental health services have been shown to be understaffed and underfunded,⁹ making individualized services for individual families challenging in the short term. On the other hand, individual structured family therapy requires the entire family to participate in a lengthy treatment process, reducing adherence and focusing more on family self-directed change and empowerment, with limited resources available.

Systematic reviews and meta-analyses have shown that systemic interventions for families of patients with schizophrenia can improve the regularity of medication use, reduce relapse rates and improve family functioning; additionally, structured interventions have demonstrated superiority over conventional treatment.¹⁰ Although changes in the structure of family communication and interaction can benefit patients' recovery and family members' self-care, mutual support and sharing of recovery resources among families who share a common experience during the recovery phase is also of great value and may be indispensable for patients' recovery. High quality intimate relationships and a sense of social connection with people in life are beneficial for the recovery of patients with schizophrenia.¹¹

Multifamily groups¹² include multiple families. An overview study showed that multifamily groups have the strongest evidence base for the treatment of psychosis compared to other modalities.¹³ Multifamily groups bring together several families affected by the same illness to heal together in an environment that allows for mutual sharing, understanding, transparency, and maximization of family resources in a mutually supportive approach. The literature shows that leading trend in family interventions for people with mental disorders is group intervention,¹⁴ and this method has unique advantages for the rehabilitation of people with mental illness.¹⁵ The inclusion of schizophrenia patients and families in a multifamily discharge preparation group may be an efficient therapy for patient recovery. In a multifamily group, the group members have similar backgrounds, with a shared source of distress and experience managing the same illness. A multifamily group intervention study of first-episode schizophrenia concluded that patients' subjective experiences of psychosis improved, and group members reported that the multifamily group helped them learn more about the illness.¹⁶ In addition, group members gained new coping skills and patients were more likely to accept their mental illness and demonstrated better coping skills. Multifamily group work for patients with bipolar disorder showed that patients in the intervention group not only had reduced symptoms but also showed significant improvements in social functioning, frequency of social contact, work status, and adherence to treatment.¹⁷ There was also a significant decrease in the overall family burden in the intervention group. Multifamily groups have also played an effective role in systemic interventions for autism spectrum disorders¹⁸ and eating disorders.¹⁹ Within one year after discharge, the medication adherence rate for schizophrenia patients is only 1/2, while for patients discharged for two years, the medication adherence rate drops to 1/4.²⁰ A study from China shows that intervention in the form of multifamily groups can improve medication adherence in schizophrenia patients.²¹ In preparing patients with schizophrenia for discharge, multifamily group work may help patients and their families share resources, enhance support, and prepare for discharge.

In the current environment of incomplete rehabilitation system, the focus of this study is on the practical purpose of group intervention for families, which aims to enable patients with schizophrenia to maximize their own resources and promote rehabilitation.

Methods

Research Design and Participants

Research Design

One patient and one primary caregiver were included in the multifamily discharge preparation team for each case. Enrollment was initiated by the patient or family, and patients and their families were screened by the attending physician and medical social worker following consent by all parties. Experimental group Inclusion criteria: (1) patients diagnosed with schizophrenia according to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition); (2) PANSS <50 points, stable condition, and met discharge criteria by physician assessment; (3) family members were the primary caregivers of the patients; and (4) participants were aged 18–75 years. Exclusion criteria: (1) those with combined severe organic brain disease; (2) those with mental retardation (WISC <70) or other severe cognitive impairments that impeded communication; (3) those with somatic causes that precluding participation in study activities. The dropout criteria were as follows: (1) patients or family members who voluntarily withdraw from activities; (2) those who cannot cooperate due to recurring symptoms of mental illness; and (3) those who cannot participate in activities for other reasons. Based on the number of available caregivers, the group sizes were capped at 15 people to ensure the effectiveness of the group interventions. To shorten the recruitment period and reduce the risk of cross-infection due to staff turnover during the COVID-19 pandemic. The recruitment was conducted in the male wards of a mental health center. The study was conducted in the group activity room of this mental health center.

Selection of Sample

British scholar Fenwick first proposed the concept of readiness for hospital discharge, which refers to the comprehensive assessment of patients by health care professionals, including whether the patient's physical condition is stable, whether the patient can receive adequate social support, the patient's psychological ability and the degree of the patient's knowledge about the disease and their own recovery.²² "Discharge readiness" refers to the overall perception and feelings of readiness of the patient and their family for hospital discharge, as well as the health care worker's assessment of the patient's ability to leave the hospital and return to society for further rehabilitation.²³ For patients with mental disorders, discharge preparation includes the patient's plan for their future life in recovery and the division of roles among the individuals involved in the implementation of the plan. This is an important part of the rehabilitation process which can help patients cope with their ability to perform activities of daily living and comply with medications after discharge.²⁴ According to the literature, additional factors of readiness for discharge include physical stability (ie, the condition of the patient has stabilized), availability of support, good mental capacity, and adequate preparation with information and knowledge. According to the results of the needs assessment conducted when selecting group members, families have urgent expectations for patient self-management, whereas patients have needs to improve their self-efficacy and confidence. Additionally, medication is very important for disease stabilization. Therefore, the target of the intervention in this study was to improve patients' medication compliance and self-management abilities to help patients maintain physical stability and improve patients' self-efficacy to enhance their confidence. Shared family resources also enhanced support for disease recovery.

Using an alphanumeric sorted list of possible venues, and times for identifying eligible subjects. (In this experiment, the time points included the time of community referral, hospitalization procedures, entry into the ward, and the time when family members first entered the ward to visit patients. The location includes community hospital referral offices, outpatient clinics, wards, etc.) Every tenth venue–time unit was selected for the location and timing of recruitment. Subjects were assigned to study conditions using an alternating sequence wherein every other individual enrolled (eg, 1, 3, 5, etc.) was assigned to the intervention condition and the alternate subjects enrolled (eg, 2, 4, 6, etc.) were assigned to the comparison condition. Two groups of subjects were measured for extreme demographic characteristics, while the intervention group was measured for baseline family dynamics characteristics.

Process and Results

Group Settings and Assignments

The average schizophrenia patient stabilizes after 6 weeks of in-hospital treatment. The longer the hospitalization time in the acute phase, a significantly greater proportion had long-stay admissions ($p < 0.001$).²⁵ However, there are many mental health

facility patients whose length of stay is much longer. This group intervention was set up to complete all group activities within 1 month after the patient's symptoms stabilized, taking into account the patient's length of stay and activity costs.

The intervention was delivered to small groups of 5–8 subjects. Finally, a total of 7 family members and 7 patients from 2 wards who met the experimental group inclusion criteria were recruited within a month. At the same time, the discharged patients in the control group received routine pre-discharge nursing training. The group activities were divided into 8 sessions of 90 minutes each, using the resources of multiple families and group dynamics to accomplish the group goals. The content of the group activities was set according to the intervention targets and is shown in Table 1.

Process

The main target of intervention in the fifth activity section was communication between patients and their families to improve the attitudes and behaviors of the target subjects by enhancing communication skills, thereby facilitating discharge readiness.

Activity section: Section 5

Activity name: Communication starts from the heart

Activity Objective: (1) Group members learn to listen to each other. (2) Group members are able to think differently and appreciate each other. (3) To improve the communication skills of group members.

Materials for the activity: 14 sheets of A4 paper, 7 black water pens, 14 stools, and 2 sheets with different geometric patterns.

Materials used: 14 stools, 1 group of families (patients and their primary caregivers) seated back-to-back; A4 paper with pens for group members to draw.

Table 1 Group Activity Content

Group Section	Group Goals	Group Content
Section 1	Build trusting relationships	The group leader builds a trusting relationship with the patient and primary caregiver and works together to develop group norms.
Section 2	Improving perceptions of medications	To increase knowledge of medications, understand how they work, and enhance family members' understanding of the effects of taking medications in preparation for monitoring their use after discharge from the hospital.
Section 3	Enhance coping with side effects	Reality orientation to enhance preparation for coping with discomfort from drug side effects after discharge and to promote stability of patients' psychological state in the face of physical discomfort.
Section 4	Improve communication skills of patients' families	Collective co-creation of coping mechanisms for difficulties in life after discharge, to enhance the family's confidence in guardianship, and to promote the family's initiative to negotiate with the medical institution and with the patient on the post-discharge life plan and the time of discharge from the hospital.
Section 5	Improve communication skills of patients' families	Improving communication between patients and families, enhancing communication skills such as listening, clarifying, expressing feelings and empathy, increasing intra-family communication and improving family dynamics.
Section 6	Improve patient's self-management skills	A multifamily program for adapting the patient's life to recovery. Assignment: Monday through Friday, with weekends used for rest, to review changes and reflect on improvements to enhance daily living skills and a sense of control over the mind and body.
Section 7	Improve self-efficacy	Reviewing the implementation of homework allows patients and families to discover that fixed patterns of coping are capable of change, enhances self-efficacy, leads group discussions about change, and uses group dynamics to consolidate and reinforce change.
Section 8	Handle separation and increase support	Summarize group results, deal with feelings of separation, build a support network among group members, and close the group.

Opening: Group members, in the last session, we did (omitted). Today, we are going to carry out the fifth session of the group activity. This session is a game that allows us to experience the role of listening, transposition and clarification in the communication process and to improve our ability to communicate with each other so that we can understand each other better (review the content of the last session, consolidate the gains and explain the objectives of this activity) (10 minutes).

Activity process: This section of the activity was divided into two parts. The first part was a game session: First, the stools were divided into two rows, A and B, with 7 stools in each row. Each group of families was seated back-to-back. The members of row A were shown a sticker with several partially overlapping geometric figures (with a certain degree of complexity), and the members of row B were given 4 papers and pens to draw the contents shown in the sticker under the verbal guidance of the members of row A. However, the members of row B could not ask questions to the members of row A. After drawing, the rules changed such that the members of row B could ask questions to the members of row A to improve the drawing (15 minutes). Next, the members of rows A and B switched roles and restarted the game using another geometric pattern (15 minutes). The second part was the communication session in which members shared their feelings about the previous session. At this time, the social worker could guide the conversations between patients and their families: What do you feel when you cannot ask questions, and how does the other person feel? What is the impact of being able to ask questions on the task? What else can we do to facilitate the communication between the two sides, etc. This introduced the skills of listening, clarifying, expressing feelings and other communication skills. At the same time, role swapping allowed both sides to better experience each other's feelings and enhance their sense of communication (40 minutes). Notably, during the sharing process, the group leader encouraged and affirmed exploration by the group members to stimulate more introspection among the group members to enhance the members' reflective abilities and halt flaw-seeking behaviors. This had a positive effect on changing existing communication patterns.

Summary: The entire session was reviewed, and the gains of the session were summarized. Mental health workers reaffirmed the active participation of the group members. Homework was assigned. Group members were instructed to choose a communication scenario from their life and practice their communication skills daily. Both the patient and the primary caregiver were instructed to record which communication skills they used, how they felt, and what changes they made compared to their previous communications; these results would be shared during the next group activity. The intent of this homework was to consolidate the gains made in the activity for applicability to real life (10 minutes).

Evaluation Metrics

Self-report of behavioral data using a face-to-face interviewer-administered questionnaire. Participants who have not fallen out participate in the evaluation. The staff member performing the assessments was not involved in implementing any aspect of the intervention and knew the participants only by their study identifier number.

SSFD was used to evaluate the intervention effect of subjects. It was a 30-item scale designed to reflect the family dynamics characteristics. Five points from 1 (completely consistent) to 5 (completely inconsistent) were used to evaluate four factors, including family atmosphere (with lower scores reflecting better family communication), personalization (with lower scores reflecting greater degrees of differentiation of family members), system logic (with lower scores reflecting more diverse way of thinking), and disease concepts (with lower scores reflecting greater belief in internal attribution and self-adjustment). The reliability and validity of SSFD were satisfactory for evaluating family dynamics.²⁶

The efficacy-based research paradigm that dominates our current notions of science is limiting and not always the most appropriate standard to apply. This "efficacy" paradigm does not address how well a program works in the world of busy, understaffed public health clinics, large health systems or community settings. Therefore, localized and more practical research is of greater operational significance to the public. We used the RE-AIM model for evaluating public health interventions that assesses 5 dimensions: reach, efficacy, adoption, implementation, and maintenance. In situations in which 1 or more of the RE-AIM dimensions are considered most important, differential weights could be assigned. Similarly, it may not be necessary to assess all RE-AIM components in every study.²⁷ Satisfaction evaluation is part of the RE-AIM model evaluation. In this study, we use a satisfaction assessment questionnaire to evaluate the activity. The satisfaction assessment scale is rated from 0 to 5, with 0 indicating very unsatisfied and 5 indicating very satisfied. And randomly selected group members were interviewed after the activity with open-ended questions about Low Unsatisfied parts to supplement the results of the questionnaire.

Data Analysis

Baseline comparison of subjects according to research conditions. The factor scores were calculated according to the scoring principle of the scale. SPSS17.0 (SPSS Inc., Chicago, IL, USA) was used for descriptive analysis, correlation analysis, and regression analysis. The correlations between observed variables were evaluated by Spearman's rank correlation analysis. A two-sided p value < 0.05 was considered statistically significant.

Results

A total of 14 families and patients participated in the study. The patient's age was between 27–56 years. To protect the privacy of the subjects, the following labels were used to identify patients and family members: S1, S2; F1, F2. Demographic details are shown in Table 2.

Before the group work was conducted, we clarified the expectations of the group, the periodicity, format, and goals of the group, and the group members showed a high willingness to participate. Only one group member was 20 minutes late for the group due to traffic, and all other members participated throughout the group without dropping out. Patients were undergoing a one-to-one baseline measurement prior to the group work and a posttest after the group work was completed. Due to the small sample size, the pre- and post-measurement data were compared using a nonparametric test (Wilcoxon Test). The results showed that there is no statistical difference between the experimental group and the control group in all measurement indexes at the baseline period; the patients' family motivation and readiness for discharge increased after the intervention compared to the baseline period; however, the increase was not statistically significant. The patients' self-efficacy improved significantly, as shown in Table 3.

A cross-sectional comparison of the eight satisfaction dimensions showed that group members were less satisfied with the "service procedures" and the "service effectiveness" than the other dimensions, as shown in Figure 1.

Table 2 Information About Participating Patients and Family Members

Number	Education	Identity	Length of Service / Course of Disease	Marriage	Religious	Date
S1	Junior school	Patient	18	Married	/	2021/11/4
S2	Technical school	Patient	4	Unmarried	/	2021/11/4
S3	College	Patient	5	Married	/	2021/12/1
S4	Technical school	Patient	2	Unmarried	/	2021/12/1
S5	Junior school	Patient	11	Unmarried	/	2021/11/15
S6	Junior school	Patient	12	Unmarried	/	2021/11/4
S7	Technical school	Patient	5	Unmarried	/	2021/12/1
F1	Junior school	Family member	/	Divorce	Christianity	2021/11/18
F2	High school	Family member	/	Married	Buddhism	2021/12/4
F3	Junior school	Family member	/	Married	/	2021/12/4
F4	Junior school	Family member	/	Married	/	2021/12/4
F5	Junior school	Family member	/	Married	/	2021/12/4
F6	High school	Family member	/	Divorce	/	2021/12/4
F7	Primary school	Family member	/	Married	Buddhism	2021/12/4

Table 3 Comparison of Observed Indicators Before and After Intervention

Assessment	Baseline	After intervention	F	p
Systematic Family Dynamics Self-Assessment Scale	79.57±10.27	74.57±9.91	5.20	0.32
Self-Efficacy Scale	28.86±7.84	29.71±6.42	24.54	0.04*
Discharge Readiness Scale	192.29±17.41	192.57±17.46	11.24	0.22
Stigma assessment scale for psychiatric patients	44.14±16.64	41.14±17.37	5.79	0.31

Note: *P<0.05.

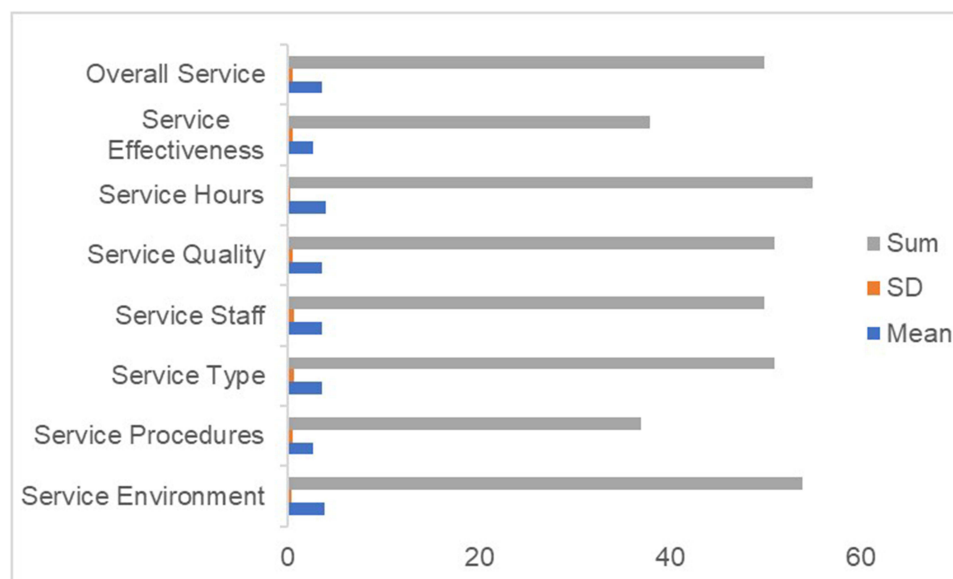
Discussion

Multifamily Groups Can Provide Informal Resources for Patients with Schizophrenia

In multifamily group interventions, the relationships between members are an important source of growth and support,²⁸ and people who cooperate with each other are better able to improve their social environment than those who face difficulties alone. Working in groups is a common approach in medical social work, and group work is well suited for individual empowerment.²⁹ Additionally, the method promotes community improvement and social justice. At the same time, group work skillfully uses the individual differences of group members to construct different problem-solving perspectives and develop new strategies. Group members can engage in value clarification, self-disclosure, awareness-raising, as well as social and gender role analysis in a safe space that leverages the dynamics of the group to maximize consciousness-raising and develop new problem-solving strategies. Group work can be very rich in form and content, and leaders can build on the strengths of the whole group, facilitate the sharing of resources within and outside the group, and work with group members to build solutions that focus on individual and systemic goals.

Interventions Should Take into Account the Specific Social Environment

Based on analysis, the effectiveness of the group intervention may have been affected by the content of the group interventions which did not account for the changes in the general environment in which the patients lived during the epidemic. This may have had an impact on improving the patients' sense of stigma and self-efficacy. The limited completion of homework (items related to social adaptation such as "planning and participating in group activities" and

**Figure 1** Satisfaction evaluated by group members.

“shopping for daily necessities at the supermarket” in the “Life Assignment” were unable to be completed) also reduced communication between family members and patients and affected family motivation, thus making it more difficult to facilitate discharge preparation. Another reason that may have limited effectiveness was that the group members wore masks during the activities due to the COVID-19 epidemic; this limited the expressions and emotions passed between group members and affected the group dynamics.

Mental health social workers provide rehabilitation-related social services for treatment (service) clients, and this social requirement should be understood in a specific sociocultural life scenario; social workers should enhance their motivation on the basis of accommodating the limitations of patients' lives; and the service model should be individualized based on the communication and interaction between group members and the environment.

Satisfaction Can Be Complementarily Evaluated

The evaluation of intervention should be approached comprehensively, and its objectives can be multidimensional. The process of evaluation involves not only the analysis and response to research problems but also the description and verification of service efficiency. Professional and systematic evaluation is a dynamic process focusing on service effectiveness which can realize the standardized management of services in addition to promoting the development of service specialization. Interviews revealed that stipulations such as “24-hour nucleic acid certificates are required to participate in group activities” and “you cannot go out of town for 14 days” increased the costs of participating in group activities. Factors such as “wearing a mask and not recognizing other group members after the activity” and “not being able to get up close and personal” also affected the effectiveness of the group activities.

Although satisfaction evaluation is an important method to improve services, it is also worth noting that reliance on evaluations of satisfaction may result in some misinterpretations. High satisfaction may be a kind of social approval response or expected response to the service, which does not all represent the effect of the service and the degree of real improvement. Therefore, when we evaluated the intervention activities in the later stage, we considered the combined effects of evaluation and satisfaction evaluation.

Limitations

The subjects in this case study include 7 patients and 7 family members. Due to the sample size, it is inferred that there are some limitations in general, but this does not hinder the value of this study. The study design did not include the number of days of rehospitalization as an evaluation indicator. In future research, it may be considered to add a tracking study to better evaluate the effectiveness of the intervention. For a long time to come, the COVID-19 epidemic will affect our lives, and the intervention practice and research work should take this social environment into account. Moreover, even under a sound rehabilitation system, the utilization of personal resources is necessary for the rehabilitation of patients.

Conclusions

The patient left their home for hospitalization, and medical staff also participated in the patient's family communication. The content of communication during treatment mainly revolves around the treatment of the disease, and the original family communication mode has changed. This change will hide the original family problems and temporarily suppress the negative emotions of family members. However, these will not disappear but will emerge after discharge. This will have a negative impact on later rehabilitation. Multifamily group work can help families solve communication problems and the negative emotions that arise during the hospital stay. Multifamily group work can help schizophrenia patients adapt to the changes brought about by the disease when they are preparing for discharge, which is also a way to enhance support for families. Because for families, chronic diseases will bring a lot of care burden. Patients' personal resources are easily overlooked and should be fully utilized. The COVID-19 epidemic has not made a comprehensive response to all aspects of our lives, so the intervention should also give personalized consideration to the rehabilitation of patients in this special and long period. At the end of the group, the evaluation of the group includes the evaluation of the intervention objectives and the evaluation of the intervention process.

Data Sharing Statement

The data that support the findings of this study are available on request from the corresponding author CYH. The data are not publicly available due to them containing information that could compromise research subject privacy.

Ethics approval

Verbal informed consent was obtained from all subjects. The research was approved by the ethics committee of Shanghai Pudong New Area Mental Health Center (approval No. PDJWLL2021031). Written informed consent was obtained from the parents/legally authorized representatives of the minor subjects in the study after the nature of the study was explained. All methods were performed in accordance with the institutional research ethics guidelines and the Helsinki Declaration.

Author contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

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