Psikiyatride Güncel Yaklaşımlar-Current Approaches in Psychiatry 2021; 13(1):77-92
doi: 10.18863/pgy.711187

Psychosocial Rehabilitation Programs Applied to Patients with Schizophrenia by Psychiatric Nurses: Systematic Review

Psikiyatri Hemşireleri Tarafından Şizofreni Tanılı Hastalara Uygulanan Psikososyal Rehabilitasyon Programları: Sistematik Derleme

Mahinur Betül Çalışkan [1], Elvan Emine Ata [2], Gül Dikeç [2]

Abstract

The purpose of this review is to review the studies related to psychosocial rehabilitation programs applied by psychiatric nurses to patients diagnosed with schizophrenia. The study was conducted on the Turkish Psychiatric Index (1) and Pubmed (7) databases between 15-31 May 2019 and 8 quantitative studies published between 2008-2019. The 27-item PRISMA Statement was used to evaluate the reporting characteristics. In this review which was written as a result of systematic screening, findings/results of 8 articles were presented as tables. In published studies, psychosocial rehabilitation programs which applied by psychiatric nurses to patients with schizophrenia; it was determined that there were trainings aimed at improving emotional expression, information technology programs including emotional recognition, psychoeducation programs after discharge, Auditory Hallucinatory symptom management program, music therapy and home visits. Also in the studies; with these psychosocial rehabilitation programs, it was determined that patients had many positive effects such as increase in social-cognitive functionality, quality of life and adherence, decrease in hospital stay and relapse, coping with auditory hallucinations, and improvement in emotional recognition. In the studies, it was found that there are limited number of studies conducted by psychiatric nurses in the psychosocial rehabilitation of the patient with schizophrenia and it is necessary to evaluate the results of the interventions performed by psychiatric nurses in this field.

Keywords: Schizophrenia, psychosocial rehabilitation, psychiatric nursing

Öz

Bu derlemenin amacı, psikiyatri hemşireleri tarafından şizofreni tanılı hastalara uygulanan psikososyal rehabilitasyon programları ile ilgili çalışmaları gözden geçirmektir. Bu çalışmada, 15-31 Mayıs 2019 tarihleri arasında Türk Psikiyatri Dizini (1) ve Pubmed (7) veri tabanları taranarak 2008-2019 yılları arasında yayınlanan 8 nicel çalışma ele alındı. Makaleler incelenirken, raporlama özelliklerinin değerlendirilmesinde 27 maddeli PRISMA Bildirimi kullanıldı. Sistematik tarama sonucunda 8 makaleye ait bulgular/sonuçlar çizelge olarak sunuldu. Yayınlanan çalışmalarda, psikiyatri hemşireleri tarafından şizofreni tanılı hastalara uygulanan psikososyal rehabilitasyon programlarının; duygusal ifadenin geliştirilmesine yönelik eğitimler, duygu tanımanın yer aldığı bilişim teknolojileri uygulamaları, taburculuk sonrasını kapsayan psikoeğitimler, işitsel halüsinasyon semptom yönetim programı, müzik terapisi ve ev ziyaretleri olduğu saptandı. Ayrıca yapılan çalışmalarda; söz konusu psikososyal rehabilitasyon programları ile hastaların sosyal-bilişsel işlevsellik, yaşam kalitesi ve ilaç uyumunda artma, hastanede yatış süresinde ve nükslerde azalma, işitsel halüsinasyonlarla baş edebilme, duygu tanımalarında iyileşme gibi pek çok olumlu etkileri olduğu belirlendi. Yapılan çalışmalarda şizofreni tanılı hastaların psikososyal rehabilitasyonunda psikiyatri hemşireleri tarafından yapılan sınırlı sayıda çalışmanın olduğu, psikiyatri hemşirelerinin rehabilitasyon alanında yaptıkları girişimlerin sonuçlarının değerlendirildiği çalışmalara ihtiyaç olduğu saptandı.

Anahtar sözcükler: Şizofreni, psikososyal rehabilitasyon, psikiyatri hemşireliği

[1] İstanbul Provincial Health Directorate, İstanbul, Turkey
[2] University of Health Sciences, İstanbul, Turkey

✉ Mahinur Betül Çalışkan, İstanbul Provincial Health Directorate, İstanbul, Turkey
mbcaliskan@hotmail.com | 0000-0003-2337-7508

Received: 29.04.2020 | Accepted: 24.08.2020 | Published online: 21.12.2020

SCHIZOPHRENIA is a chronic disease which starts at an early age, is seen equally in both genders and might occur in every society and which progresses with deteriorations, healing and recurrence especially in thought, perception and affectivity fields. This disease in which individual switches to a functionality which does not comply with the truths apart from the ordinary functionality that the individual has previously displayed in behavioural, intellectual, perceptual and emotional fields, causes loss of mental and social abilities in a significant part of individuals as well as destructing individual and social functioning (Yıldız 2005, Os and Kapur 2009). Schizophrenia, prevalence of which is % among the society, is a mental disease affecting over 50 million people in the world (Mitra et al. 2017).

Discovery of antipsychotic drugs used in treatment of psychiatric diseases in 1950's has led to significant developments such as reducing the hospitalization periods and early discharge of patients (Üstün et al. 2018). However, it is known that medication alone is inadequate in preventing relapses which deteriorate the quality of life of individuals with psychotic disorder (Doğan et al. 2002, Hogarty et al. 2004). The impact of medication is limited on re-acclimatization of the individual diagnosed with schizophrenia into the society, improving his/her interpersonal relationships and increasing his/her selfcare activities. For that reason, it is emphasized that antipsychotic drugs used in schizophrenia treatment are an essential part of the treatment and medication should be addressed with social support programmes, skills training and various psychosocial approach programmes (Akpınar and Kelleci 2008).

Psychiatric rehabilitation studies focus on reducing disability in patients with mental disorders, increasing mental, social and occupational functionality and improving the satisfaction with life and quality of life. Ensuring that patients can become social individuals besides their patient identities is one of the primary objectives of rehabilitation (Yıldız et al. 2003). With psychiatric orientation initiations in schizophrenia, it is aimed that negative symptoms of the patient are improved, his/her social and occupational skills are improved for independent living, increasing his/her abilities to cope with the disease, reducing the hospitalization frequency by ensuring adaptation to treatment through gaining insight and it is aimed to reduce costs as a result of all these (Özdemir et al. 2017). Psychiatric rehabilitation programmes are implemented for various purposes such as improving interpersonal relationships, increasing their abilities to display appropriate social reactions with the purpose of living as independent members of the society, regaining the abilities that they have lost and reducing the number of hospitalization as well as preventing relapses in patients diagnosed with schizophrenia (Hutchison et al. 2017).

To achieve aforementioned objectives, numerous rehabilitation programmes are implemented by healthcare professionals in the world and in our country for the individuals diagnosed with schizophrenia and psychotic disorder. Those programmes include mostly practices that support healthy lifestyle such as psychoeducation, skills training, occupational therapies, exercising, regulating diet and meeting hygienic needs and practices such as improving selfcare skills, environment therapy, psychotherapies and social activities. In that direction, psychosocial skills training, re-acclimatization and occupational rehabilitation programmes are implemented in our country (Yazıcı 2001, Doğan et al. 2002, Yıldız et

al. 2002, Yıldız 2005, Çetinkaya Duman et al. 2007, Morin and Franck 2017). Most of the studies are conducted at areas such as community mental health centres, day hospitals, associations and psychiatry clinics. When the study results are assessed, it is expressed that patients benefit from rehabilitation programme and their functionality increases (Arslan et al. 2015).

Rehabilitation programmes are a practice reducing health care costs while increasing the patient's functionality. In the study of Kopelowicz et al. (2012); it is reported that psychiatric orientation intervention implemented to patients diagnosed with schizophrenia whose psychotic symptoms has been recently inflamed and who do not have drug compliance and their families reduced hospitalization rates (Kopelowicz et al. 2012). In the study of Kerkemeyer et al. (2018) conducted for assessing the efficiency and cost analysis of the integrated care programme implemented to patients diagnosed with schizophrenia in Germany; it is reported that there is a decrease in the number of days that patients spend at hospital and a reduction in costs thanks to the programme implemented (Kerkemeyer et al. 2018).

As a result of the literature review, it is determined that the number of psychosocial rehabilitation studies implemented by nurses in schizophrenia and other psychotic disorders in our country and the world is limited. Based on this fact, the aim of this review is to review the studies on psychosocial rehabilitation programmes implemented by psychiatry nurses to patients diagnosed with schizophrenia.

Method

Due to the combination of quantitative studies encountered during research process, 27-item PRISMA Statement was used in study design for assessment of reporting features (Moher et al. 2009). Turkish Psychiatry Index [1] and Pubmed [7] databases were scanned between 15-30 May 2019 using the keywords "schizophrenia", "psychosocial rehabilitation" and "nursing" in the title and abstract. Last search was made on 31 May 2019.

Studies published between 2008-2019 which meets identified keywords and full text of which is accessed were included in the research. All studies with quantitative design were included in the research. Total 22 studies were accessed and 8 articles among those studies were taken into assessment (Figure 1). The fact that number of studies included in the review is few has caused limitation in comparing the study results.

Results

It was determined that the eight studies were conducted between 2011 and 2019 in South Korea (2), China (1), France (1), Northern Taiwan (1), Netherlands (1), Iran (1) and Turkey (1). It was determined that sample consisted of patients diagnosed with schizophrenia in most of the studies and the sample consisted of patients with schizophrenia, schizoaffective disorder and psychotic disorder in the study conducted by Quee et al. (2014) (Quee et al. 2014). Considering the number of samples in the studies conducted, it was determined that number of samples (n=180) was the highest in the study of Ye et al. (2017) which investigates

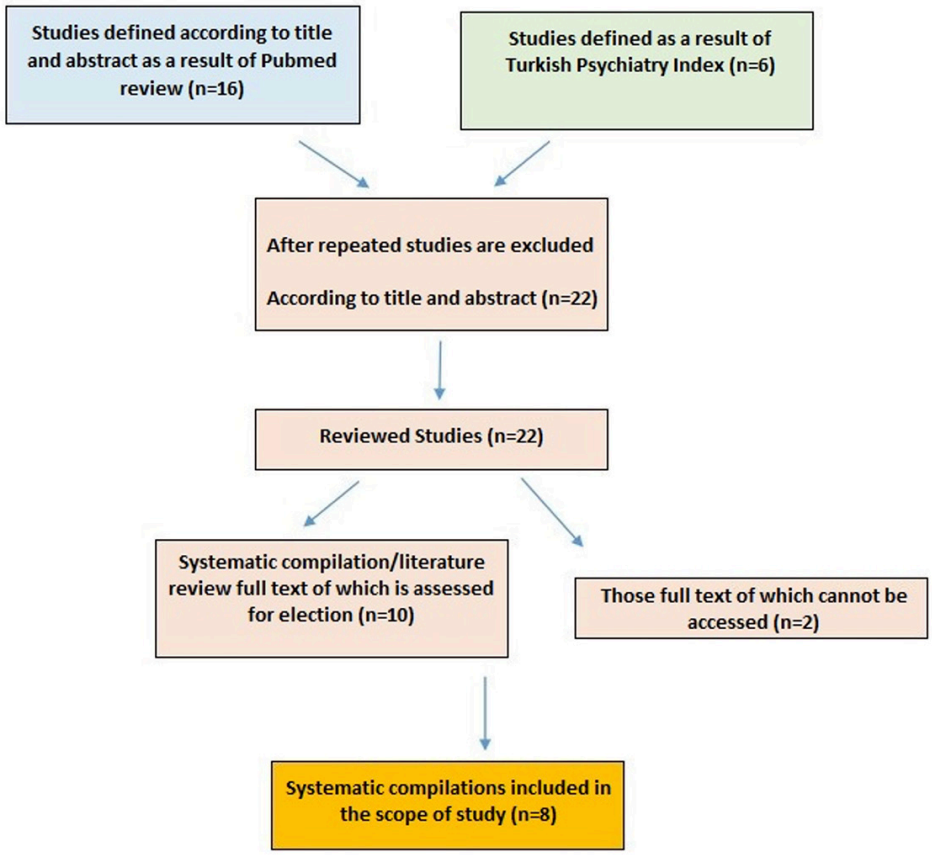

Figure 1. PRISMA flow chart

the impacts of post-discharge continuing nursing care on the patients' rehabilitation and quality of life (Ye et al. 2017); the number of samples (n=30) was the lowest in the study of Quee et al. (2014) which investigates the efficiency and applicability of cognitive adaptation training as a nursing intervention (Quee et al. 2014).

In the quasi-experimental study of Cho and Jang (2019) which investigates the impact of emotion management programme applied to patients diagnosed with schizophrenia in South Korea, patients were divided into two groups as experiment (n=29) and control (n=27) group. While routine nursing practices including consultancy, psychoeducation, occupation rehabilitation programme, therapeutic activities (art therapy, music therapy, social skills education, meditation, etc.) and symptom management were applied to patients in control group; Yongin-Emotion Management Training (Y-EMT) emotion management programme was applied to the patients in experiment group during 8 weeks in 8 sessions for 50 minutes per week in addition to routine nursing practices. In the Emotion Management Programme, the sessions consist of three parts as warming up, implementation of the programme and conclusion. As warming up, simple games and activities about emotional

recognition and expression (clapping game, shouting game, bingo with emotional adjectives) were performed. In the main section of the session, participants participated in related activities by means of discussing or managing the topic of the session following a short briefing (for example, making masks expressing a certain emotion) and they shared their thoughts and emotions at the end. Measurement tools were used in the study for assessing emotional recognition, emotional expression and quality of life. As a result of the study, it was determined that emotional recognition (emotional attention and emotion clarity), emotional expression (positive expression, negative expression and impulse strength) and quality of life scores of the patients in the experiment group who participated in the emotion management program increased significantly and those scores decreased significantly in the control group. At the end of the study, researchers emphasized that emotion management programme might be a programme that can be used for increasing emotional recognition emotional expression and quality of life of the patients diagnosed with schizophrenia, that this program might be used as an effective nursing practice and as a result of all those, that continuous emotional stimulation and education are important in improving the patients' quality of life (Cho and Jang 2019).

In the study of Ye et al. (2017) investigating the impacts of day rehabilitation programme on the quality of life of the outpatients diagnosed with schizophrenia in China; patients were divided into two groups as experiment (n=90) and control (n=90) group. While routine discharge education and comprehensive nursing care programme that continues more systematically following hospital (lifestyle, medication management, developing nursing plan, assessing patients diagnosed with schizophrenia who will be discharged and preparing and implementing suitable care plan according to assessment results, making home visits and phone follow-up after discharge, briefing through mail and WeChat online consultancy service) are given to patients in experiment group; only routine discharge education was given to the control group. Measurement tools were used in the study to assess the psychiatric status, rehabilitation status and quality of life of the patients and patients were reassessed 6 months after discharge. As a result of the study; when experiment group's compliance with treatment and level of knowledge about schizophrenia was compared with control group after outpatient comprehensive nursing care that continues for 6 months systematically, it was determined that they have increased significantly and there is a significant difference between the two groups. In addition, it was found that quality of life scores of the patients in experiment group were significantly better than the patients in control group (Ye et al. 2017).

In the study of Gaudelus et al. (2016) conducted in France which compares the efficiency of GAÏA s-face programme (GAÏA arm) that focuses on emotional recognition processes of patients and RECOS programme (RECOS arm) that focuses on selective attention and is a neurocognitive healing treatment; GAÏA face programme was implemented to a group (n=18) and RECOS programme was implemented to the other group (n=15). GAÏA s-face programme is a 3-stage emotional recognition programme consisting of an exercise stage with photographs which aims to develop strategies to recognize and discriminate joy,

anger and sadness; a computerized exercise stage which uses videos to adapt the strategies to dynamic situations with five levels of difficulty; recognizing and discriminating other basic emotions (fear, disgust and contempt) and working on complex emotions. RECOS programme is a programme developed for increasing neurocognitive functions such as verbal memory, working memory, executive functions, memory and visual-spatial attention, selective attention and processing speed. RECOS programme consists of paper and pen exercises, computer exercises and home exercises without therapist. Both programmes are carried out in 3 one-hour sessions once a week. Patients in both groups were implemented 30 sessions RECOS and GAÏA s-face programmes during 10-week treatment and patients were followed for 6 months. Measurement tools were used in the study to assess the patients' emotional recognition, symptoms, thinking processes, insight, self-respect and social functionality statuses. At the beginning, measurements were made at post-treatment 11th week and 6th month. At the end of the study, increased facial emotional recognition performance, reduced symptoms, partial improvement in neurocognitive and social cognitive processes were identified in both groups and increased social functionality was identified in the group to which GAÏA was implemented (Gaudelus et al. 2016).

In the study of Yang et al. (2015) conducted in Northern Taiwan; the efficiency of Auditory Hallucinatory Symptom Management Programme was investigated in patients who receive regular medication but have Auditory Hallucination. Patients were divided into two groups as experiment (n=29) and control (n=29) group. Auditory Hallucinatory Symptom Management (AHSM) programme was implemented to the patients in experiment group. Auditory Hallucinatory Symptom Management (AHSM) programme was implemented as 60 minutes once a week and 10 sessions in 10 weeks in total. In AHSM programme, patients were interviewed for 1 hour after dinner and group members were encouraged for sharing their auditory hallucination experiences and the group was taught strategies for coping with auditory hallucinations and also the members were provided with opportunities to implement such strategies. Ten-week AHSM programme includes strategies for coping with hallucinations such as watching oneself, keeping oneself away from voices by making other things, talking with someone, reading, listening to music, watching television, using earplugs or asking someone to cover one's ears, taking deep breaths, relaxing muscles and listening to relaxing music. Routine nursing care was implemented to the patients in control group for 10 weeks. Measurement tools were used in the study for assessing depression, anxiety and auditory hallucinations. The data were collected three times in total; right after implementation and 3 and 6 months after the implementation. As a result of the study, while no significant reduction was found in the anxiety of patients in experiment group in time, reduction was found in auditory hallucinations after the intervention and in 3rd and 6th months and a reduction was found in depressive symptoms in the 3rd month compared to patients in control group (Yang et al. 2015).

In the study of Quee et al. (2014) investigating the efficiency and applicability of Cognitive Adaptation Training (CAT) which is a psychosocial intervention that aims improving cognitive abilities of patients in the Netherlands; patients were divided into two groups as

experiment (n=16) (10 inpatients) and control (n=14) (9 inpatients) group. While patients in experiment group were given 45-minute Cognitive Adaptation Training (individual treatment plans, individual behavioural and cognitive support training, environmental support) by average per week during 8 months (daily and weekly in inpatients, once in two weeks in outpatients) in home visits besides routine treatment, only routine treatments (pharmacotherapy, psychoeducation, cognitive behavioural therapy, psychomotor therapy, creative arts therapy, educative projects, various sports groups, peer support groups) were implemented to patients in control group. Measurement tools were used in the study for assessing symptoms, social ability, social and occupational functionality. The data were collected three times; at the beginning, 4 and 8 months after the implementation. Inpatients were followed for 16 months after beginning. As a result of the study; it was determined that social ability total average scores of the patients in experiment group increased and there was a significant difference with the patients in control group. In addition to that, it was determined that occupational activities of the experiment group inpatients increased compared to control group inpatients (Quee et al. 2014).

In the study of Kwon et al. (2013) conducted with the purpose of investigating the impact of group music therapy on the brainwaves, behaviour and cognitive functions in patients diagnosed with chronic schizophrenia in South Korea, patients were divided into two groups as experiment (n=28) and control (n=27) group. Patients in experiment group participated in 50-minute (10 minutes warming up, 30 minutes implementation, 10 minutes closing) group music therapy twice a week for 7 weeks and 13 sessions in total in addition to their standard treatment. Music therapy sessions were administrated by a professional music therapist and two psychiatry nurses. Contents of the group music therapy were singing, playing and listening. Songs and musical instruments were chosen based on patients' musical preferences. The therapy also includes physical activity combination by means of cognitive stimulation education, interaction and musical activities. Patients in control group received only routine pharmacological treatment and nursing care. Measurement instruments were used in the study for assessing the brainwaves, cognitive function and patients' behaviours. The data were collected twice in total in the form of pre-test – post-test. As a result of the study; it was determined that emotional relaxation and cognitive skills were improved in patients diagnosed with chronic schizophrenia in the experiment with music therapy as well as attention, calculation and language improvement (Kwon et al. 2013).

In the quasi-experimental study of Khankeh et al. (2011) which aims to determine the impact of discharge, education and follow-up programme on selfcare skills of patients diagnosed with chronic schizophrenia in Iran; patients were divided into two groups as experiment (n=30) and control (n=30) group. Selfcare, continuity of treatment and importance of medication, ways of improving and maintaining physical, mental and social health, methods for coping with stress and their families were given an education programme including how to intervene crisis situations and how to cope with disease symptoms and homecare service were given to patients in experiment group for 6 months after discharge; routine discharge education was given to patients in control group. In the study, the form

Table 1. Features and methods of the publications included in the study

Title of the study	Countrywhere the study is conducted	Study design	Aim	Sample
Effect of an emotion management programme for patients with schizophrenia: A quasi-experimental design (Cho and Jang 2019).	South Korea	Quasi-experimental	Examining the impact of emotion management programme on recognizing emotions, emotional expression and quality of life	56 patients
Effects of out-of-hospital continuing nursing on schizophrenia patients' rehabilitation and quality of life (Ye et al. 2017).	China	RCT	Investigating the impacts of nursing service continuing outside the hospital on the rehabilitation and quality of life of patients with schizophrenia	180 patients
Improving facial emotion recognition in schizophrenia: A controlled study comparing specific and attentional focused cognitive remediation (Gaudelus et al. 2016).	France	RCT	Comparing GAÏA face programme focusing on emotional recognition processes on the face and RECOS programme which is a neurocognitive healing treatment focusing on selective attention	33 patients
The effects of auditory hallucination symptom management programme for people with schizophrenia: A quasi-experimental design (Yang et al. 2015).	Northern Taiwan	Quasi-experimental	Comparing the efficiency of auditory hallucination symptom management programme in patients with chronic schizophrenia and the anxiety symptoms and depressive symptom levels	58 patients

Applied programs	Measurementtoolsused	Conclusion
*Yongin-Emotion Management Training (Y-EMT)	* Travers Meta Mood Scale-short form) (TMMS S) * Berkeley Expressivity Questionnaire * Subjective Well-Being Under Neuroleptic Treatment Scale Korean Version)	Results of this study present significant preliminary evidence for the benefits of emotion management programme on the emotion recognition, emotional expression and quality of life of patients diagnosed with schizophrenia. This programme can be implemented as an effective nursing intervention for patients diagnosed with schizophrenia. In addition, results indicate that continuous emotional stimulation and education is effective in improving quality of life of the patients diagnosed with schizophrenia.
* Comprehensive care program that continues more systematically after hospital (lifestyle, medication management, developing nursing plan, assessing patients diagnosed with schizophrenia who will be discharged and preparing and implementing the suitable care plan according to assessment results, conducting home visits and telephone follow-up after discharge, informing by mail and offering WeChat online consultancy service)	* Brief Psychiatric Rating Scale (BPRS) * Morningside Rehabilitation Status Scale (MRSS) * Generic Quality of Life Inventory (GQOLI)	Results of this study present evidences that post-discharge nursing service continuing outside the hospital for patients diagnosed with schizophrenia might improve patients' medication adherence and their medical knowledge awareness effectively, reduce schizophrenia incidence effectively and it will increase patients' quality of life. In addition, results indicate that it will contribute in promotion of nursing concept and related methods and its implementation in a broader area.
* GAÏA s-face programme (GAÏA arm) * RECOS programme (RECOS arm)	* Facial Emotions Recognition Task (TREF) * Positive and Negative Syndrome Scale (PANSS) * Delusions Inventory (PDI21) * Insight Scale (IS) * Self-Esteem Rating Scale (SERS) * Social Autonomy Scale (Echelle d'Autonomie Sociale-EAS)	Results of this study present evidences regarding increased face recognition performance, reduced symptoms in both groups and increased social functionality in GAÏA experiment group and that some neurocognitive and social cognitive processes are improved in both study branches. In addition, although comprehension of cognitive mechanisms developed by GAÏA programme are still deficient, results of this study displayed applicability and efficiency of this programme for improving facial emotion recognition abilities, reducing positive and negative symptoms in schizophrenia and increasing social functioning. Furthermore, these results indicate that cognitive improvement provided by nurses following a three day education session will be included in routine care of schizophrenia and contribute in its generalization together with medication, psychoeducation, social skills education and psychotherapy.
* Hallucination symptom management programme (Auditory hallucinatory symptom management-AHSM)	* Beck Depression Inventory II (BDI-II) * Beck Anxiety Inventory (BAI) * Auditory Hallucinations Questionnaire (CAHQ)	Results of this study presented that while there is no significant improvement in anxiety symptoms in experiment group in time, it provided more reduction in auditory hallucinations questionnaire scores after intervention than controls in 3rd and 6th months. In addition, Beck Depression Inventory II scores in experiment group shower a significant improvement in 3 months. Furthermore, it also indicates that participation in auditory hallucination symptom management programme is an effective strategy for individual patients who have regular medication but suffer from auditory hallucinations.

Improving functional outcomes for schizophrenia patients in the Netherlands using cognitive adaptation training as a nursing intervention - A pilot study (Quee et al. 2014).	Netherlands	RCT	Investigating the efficiency and applicability of cognitive compliance training as a nursing intervention	30 patients
Effect of the group music therapy on brain wave, behaviour and cognitive function among patients with chronic schizophrenia (Kwon et al. 2013).	South Korea	Quasi-experimental	Examining the impact of group music therapy on brain waves, behaviour and cognitive function in patients with chronic schizophrenia	55 patients
The effects of nursing discharge plan (post-discharge education and follow-up) on self-care ability in patients with chronic schizophrenia hospitalized in Razi psychiatric centre (Khankeh et al. 2011).	Iran	Quasi-experimental	Determining the impact of discharge, training and follow-up programme of patients with chronic schizophrenia on their self-care abilities	60 patients
Defining patients with schizophrenia who participated and did not participate in rehabilitation programs implemented in a Community Mental Health Centre in terms of their some sociodemographic and disease related characteristics and their compliance to treatment and their self-efficacy (Üstün et al. 2018).	Turkey	Descriptive	Defining some sociodemographic and disease related characteristics of patients with schizophrenia who participated and did not participate in rehabilitation programmes implemented in a Community Mental Health Centre and their compliance with treatment and self-efficacy	64 patients

prepared by researchers was used for assessing sociodemographic data and selfcare abilities. The data were collected 1 month before education and 6 months after discharge. As a result of the study; it was determined that selfcare abilities of the patients in experiment group increased significantly after implementation compared to the patients in control group. Researchers emphasized that homecare service has positive impact on selfcare abilities and independence levels of patients with chronic psychiatric disorder (Khankeh et al. 2011).

In the descriptive study of Üstün et al. (2018) conducted with the purpose of comparing the compliance with treatment and self-efficacy of patients diagnosed with schizophrenia who participated in and did not participate in rehabilitation programmes implemented at Community Mental Health Centre (CMHC) in our country; the study was conducted

	* Cognitive Adaptation Training (CAT)	* Positive and Negative Syndrome Scale * Multnomah Community Ability Scale (MCAS) * Social and Occupational Functioning Scale (SOFAS) * Negative Symptom Assessment-Motivation Subscale (NSA-M)	Results of this study presented that patients in experiment group have better scores than control group patients in Multnomah community ability scale. In addition, it was presented that occupational activities of experiment group inpatients increased compared to control group inpatients and gained importance 10 months later. Furthermore, it indicates that cognitive adaptation education as a nursing intervention has positive impacts on patients diagnosed with schizophrenia living in the Netherlands including the patients who have stayed at hospital for long time.
	* Group music therapy	* Electroencephalography (EEG) * Mini-Mental State Examination (MMSE) * Nurses' Observation Scale for Inpatient Evaluation (NOSIE)	Results of this study indicate that group music therapy is an effective intervention for emotional relaxation, cognitive processing abilities as well as improving positive behaviour changes in patients diagnosed with chronic schizophrenia. In addition, results indicate that it might be beneficial for creating intervention strategies towards psychiatric rehabilitation for those suffering from chronic psychiatric diseases.
	* To patients: Selfcare, continuity of treatment and importance of medications, methods of improving and maintaining physical, mental and social health, methods of coping with stress * To families: How to intervene in crises situations and how to cope with disease symptoms * Home care service	* Demographic Data Questionnaire * Questionnaire Form	Results of this study indicate that there is a significant difference between the post-intervention selfcare abilities of experiment group (1 to 6 months) compared to control group. In addition, results indicate that home care service provides benefits in selfcare ability and independence of patients with chronic psychiatric disorder.
	* Weekly: Warming up exercise every morning, good morning meetings, artistic activities such as art and occupational therapy, music therapy, theatre and movie screening, book reading activities in turns * One day a week: Social skill trainings and client psychoeducation * Once a month: Family psychoeducation group	* Personal information form * Morisky Adherence Scale (MAS) * Self Efficiency – Efficacy Scale (SES)	Results of this study present that adherence of the patients diagnosed with schizophrenia who participated in rehabilitation programme to the treatment is higher than those who did not participate in rehabilitation programme.

with patients who participated in rehabilitation programmes regularly (at least one day a week) (n=32) and patients who did not participate in rehabilitation programmes (n=32). Within the weekly programme of the centre, warming-up exercise, good morning meetings and artistic activities such as arts and occupational therapy, music therapy and theatre are carried out every morning; activities such as movie screening and book reading continue in turns and social skills educations and client psychoeducation are carried out once a week and family psychoeducation group is conducted once a month. Measurement instruments are used in the study for assessing the compliance and self-efficiency – self-efficacy of the patients. Interviews with the patients were conducted at the centre with those who come to the CMHC regularly within the 3-month period of the study and on the phone with

those who do not come to the centre. As a result of the study; it was found that compliance with treatment of the patients diagnosed with schizophrenia in the experiment group that participated in the rehabilitation programme is higher than the patients in control group that did not participate in rehabilitation programmes. No significant difference was found between the two groups in terms of self-efficacy scale scores (Üstün et al. 2018).

Discussion

Schizophrenia is a disease which contains emotional program and deteriorates social functionality with affective disorders. Individuals diagnosed with schizophrenia have difficulty in understanding and managing their emotions and improving their empathetic abilities (Cho and Jang 2019). For that reason, psychosocial rehabilitation interventions that will help improving emotional expression among patients diagnosed with schizophrenia are used. In the study of Cho and Jang (2019); it was found that emotional expressions of the patients in experiment group improved more compared to the control group. In another study conducted by Gaudelus et al. (2016); it was found that patients facial recognition abilities are improved and negative and positive symptoms are reduced and their social functionality is improved by means of the programmes focusing on emotional recognition processes and neurocognitive improvement. In another study, 8-session positive emotions training for schizophrenia was implemented by nurses with the purpose of decreasing anhedonia and indifference in schizophrenia and it was seen that this programme is an intervention that can be implemented by nurses in addition to the fact that there is a clear reduction in anhedonia and indifference of the patients who participated in the programme (Favrod et al. 2015). According to the results of those studies; it can be said that education and information technology applications developed for emotional recognition and development of patients diagnosed with schizophrenia in psychosocial rehabilitation services would contribute in patients' recognition of various emotions, repeating the emotional facial expressions and use of emotional words and expressing emotions with various words; as a result of all that, individuals' interpersonal relationships, social behaviours and quality of life would be improved. As a result, this and similar programmes might be one of the psychiatry nursing implementation programmes beneficial in rehabilitation of patients diagnosed with schizophrenia.

It is known that many patients diagnosed with schizophrenia ensured compliance with treatment and medication during their stay at the hospital, but patients quit using medication deliberately or they have medication non-compliance after they are discharged (Ye et al. 2017). In the study of Ye et al. (2017); it was found that the rate of full compliance with treatment, schizophrenia related medical knowledge awareness rate increased significantly in the experiment group compared to the control group after the 6-month outpatient comprehensive nursing care. In another study, it was seen that psychoeducation programme implemented by psychiatry nurses is effective in increasing medication compliance of schizophrenia patients staying at hospital, they ensured the ability to lead a normal life with medication and contribute in improving medication compliance of the patients (Matsuda et al. 2016). According to the results of these studies; more systematic and comprehensive

outpatient psychosocial rehabilitation programmes are required for ensuring that patients' compliance with treatment is high after they are discharged. Otherwise, revolving door phenomenon which causes repeated hospitalization of the patients might continue.

Regular medication use in schizophrenia patients reduces symptoms of 50-60% of the patients, but persistent symptoms of some patients continue. Auditory hallucinations are among the hallucinations that disturb patients. Auditory hallucinations cause other symptoms such as aggressive behaviours, suicidal behaviour and thoughts, social withdrawal and deterioration of interaction (Yang et al. 2015). For that reason, strategies should be developed towards psychosocial rehabilitation with the purpose of reducing the negative impacts of these symptoms in patients who have good treatment compliance but suffer from persistent symptoms. In the study of Yang et al. (2015); it was found that disturbing impacts of auditory hallucinations of the patients in experiment group who received Auditory Hallucinatory Symptom Management Programme reduced significantly compared to the patients in control group. In a study which investigates the impacts on auditory hallucinations of symptom management programme implemented by psychiatry nurses to patients followed with schizophrenia diagnosis in Thailand, it was seen that there was a significant reduction in the auditory hallucination scores of the cases who received a 10-sessin symptom management programme (Kanungpairn et al. 2007). According to these results, it can be said that symptom management programmes to be implemented by psychiatry nurses as psychosocial rehabilitation intervention will be an effective strategy for patients with persistent symptoms.

Deteriorations are observed in most of the cognitive fields in patients diagnosed with schizophrenia. These cognitive deficiencies cause deterioration in long-term functionality. Treatments for cognitive deterioration draw more and more attention. Although it is proven that pharmacological treatments succeed in reducing positive symptoms, it was found that cognitive improvements are limited following antipsychotic treatment (Quee et al. 2014). For that reason, cognitive compliance treatments within the scope of psychosocial rehabilitation are effective in using environmental supports in living spaces of the patients and improving functionality. In the study of Quee et al. (2014); efficiency and applicability of the cognitive compliance education was found higher in experiment group compared to control group. In a study investigating the impacts of cognitive compliance education given by nurses to people who need long-term intensive psychiatry services such as schizophrenia on the daily operation which supports this study, it was seen that cases to whom cognitive compliance education is implemented showed significant improvement in daily functionality, executive functions and visual attention 12 months later and continued this situation (Stiekema et al. 2020). When these results are assessed; it can be said that psychiatry nurses who are constantly in contact with and spend longer time and are in therapeutic relationship with individuals who have mental disorders might play active role in cognitive compliance education and they can implement the education in daily working routines.

Music therapy is one of the psychosocial interventions which causes advanced social interaction and neurophysiological function as well as managing psychiatric symptoms and deterioration in schizophrenia. Music therapy also leads to mental and physical stabilization, advanced emotion, cognitive function and positive behaviours by affecting

the physiological reactions and activities within the nervous system, endocrine system and cardiovascular system (Kwon et al. 2013). In the study of Kwon et al. (2013); it was found that emotional relaxation and cognitive processing abilities are improved in patients diagnosed with schizophrenia as well as attention, calculation and language improvement with the group music therapy used. In another study investigating the impacts of music intervention on functional connection power of the brain in schizophrenia; it was seen that music intervention made positive changes in functional connection of brain as a result of examining the cases to whom music intervention is implemented for 1 month with magnetic resonance imaging method (Yang et al. 2018). According to the results obtained; it can be said that music therapy can be implemented to patients with mental disorders among psychiatric rehabilitation interventions.

The increase in home care needs which starts with discharge of the patients diagnosed with chronic schizophrenia and continues in the society has led to changes in case of patients with mental disorders in recent years. It is known that home care service provides advantages on selfcare abilities and independence of patients with chronic mental disorder (Khankeh et al. 2011). In the study of Khankeh et al. (2011); significant difference was found between the selfcare abilities of patients in experiment and control group after home visits implementation. In another study investigating the impacts of disease management and healing programme implemented to discharged schizophrenia patients in Taiwan; it was seen that there was improvement in patients in relation to treatment related disease knowledge, insight, attitude towards medication and affective field psychopathology after the completion of the programme (Lin et al. 2013). According to the result of these studies; it can be said that follow-up and home visits of patients after discharge might be beneficial in terms of patients' healing and reducing medical expenses and social costs by means of establishing strong connections between hospital and society. In addition, it was found that treatment compliance of the patients diagnosed with schizophrenia who participated in rehabilitation programmes implemented at CMHC by Üstün et al. (2018) was higher than patients who did not participate in those programmes. According to the result of this study; it can be said that patients diagnosed with schizophrenia should be supported for participating in rehabilitation programmes with the purpose of increasing their self-efficacy and medication compliance.

Conclusion

As a result of this systemic review, it was determined that the number of psychosocial rehabilitation programmes implemented by psychiatry nurses to patients diagnosed with schizophrenia is limited and education, implementation and researchers are needed in this field for psychiatry nurses. In all studies included in assessment, it is seen that psychosocial rehabilitation programmes implemented by psychiatry nurses to patients diagnosed with schizophrenia have positive outcomes. When the content of the psychosocial rehabilitation programmes included in the review is examined, it was determined that programme contents improved coping levels and selfcare abilities of patients diagnosed with schizophrenia, ensured social-cognitive functionality, increased their treatment compliance and quality

of life, reduced hospital stay period and recurrence and improved coping with auditory hallucinations and emotional recognition. It is necessary that psychosocial rehabilitation programmes implemented to patients diagnosed with schizophrenia are extended and included in the mental health system. Psychosocial rehabilitation programmes for patients diagnosed with schizophrenia cannot be implemented systematically and in a planned manner in our country. It is necessary that psychosocial rehabilitation programmes which contribute in reducing disability and increasing mental, social and occupational functionality in patients with mental disorder are improved and extended in our country. As in the international systematic reviews examined, expert psychiatry nurses can take active part in implementation and maintenance of psychosocial rehabilitation programmes in our country. Psychiatry nurses should take part in planning, implementing, assessing and monitoring of the psychosocial rehabilitation programmes for protecting and improving the health of patients diagnosed with schizophrenia. Furthermore, psychiatry nurses should take active part in the stages of inclusion of the patient in psychosocial rehabilitation programmes, monitoring the patient and sharing the results within the framework of case manager role with their knowledge and skills in accordance with the patient's needs.

References

Akpınar Ş, Kelleci M (2008) Şizofrenik hastalara uygulanan sorun çözme becerilerin geliştirme programının yaşam kalitesine etkisi. Klinik Psikiyatri Dergisi, 11:180-190.

Arslan M, Yazıcı A, Yılmaz T, Coşkun S, Kurt E (2015) Rehabilitasyon programının şizofreni hastalarının kliniği, sosyal işlevselliği ve yaşam kalitesi üzerindeki uzun dönem etkileri: İzleme çalışması. Anadolu Psikiyatri Derg, 16:238-246.

Cho M, Jang SJ (2019) Effect of an emotion management programme for patients with schizophrenia: A quasi-experimental design. Int J Ment Health Nurs, 28:592-604.

Çetinkaya Duman Z, Aştı N, Üçok A, Kuşcu MK (2007) Şizofreni hastalarına ve ailelerine bağımsız ve sosyal yaşam becerileri topluma yeniden katılım programı uygulaması, izlenmesi. Anadolu Psikiyatri Derg, 8:91-99.

Doğan S, Doğan O, Tel H, Çoker F, Polatöz Ö, Başeğmez FD (2002) Şizofrenide psikososyal yaklaşımlar: Ayaktan hastalar. Anadolu Psikiyatri Derg, 3:69-74.

Favrod J, Nguyen A, Fankhauser C, Ismailaj A, Hasler JD, Ringuet A et al. (2015) Positive Emotions Program for Schizophrenia (PEPS): A pilot intervention to reduce anhedonia and apathy. BMC Psychiatry, 15:231.

Gaudelus B, Virgile J, Geliot S, The GAÏA/RECOS Study Team, Franck N (2016) Improving facial emotion recognition in schizophrenia: A controlled study comparing specific and attentional focused cognitive remediation. Front Psychiatry, 7:105.

Hogarty GE, Flesher S, Ulrich R (2004) Şizofreni için bilişsel pekiştirme terapisi: Biliş ve davranış üzerine 2 yıllık randomize bir çalışmanın etkileri. Arch Gen Psychiatry, 61:866-876.

Hutchison SL, MacDonald-Wilson KL, Karpov I, Maise AM, Wasilchak D, Schuster JM (2017) Value of psychiatric rehabilitation in a behavioral health medicaid managed care system. Psychiatr Rehabil J, 40:216-224.

Kanungpairn T, Sitthimongkol Y, Wattanapailin A, Klainin P (2007) Effects of a symptom management program on auditory hallucinations in Thai outpatients with a diagnosis of schizophrenia: A pilot study. Nurs Health Sci, 9:34-39.

Kerkemeyer L, Wasem J, Neumann A, Brannath W, Mester B, Timm J et al. (2018) Effectiveness and cost-efectiveness of an integrated care program for schizophrenia: An analysis of routine data. Eur Arch Psychiatry Clin Neurosci, 268611-619.

Khankeh H, Rahgozar M, Ranjbar M (2011) The effects of nursing discharge plan (post-discharge education and follow-up) on self-care ability in patients with chronic schizophrenia hospitalized in Razi psychiatric center. Iran J Nurs Midwifery Res, 16:162-168.

Kopelowicz A, Zarate R, Wallace CJ, Liberman RP, Lopez SR, Mintz J (2012) The ability of multifamily groups to ımprove treatment adherence in Mexican Americans with schizophrenia. Arch Gen Psychiatry, 69:265-273.

Kwon M, Gang M, Oh K (2013) Effect of the group music therapy on brain wave, behavior, and cognitive function among patients with chronic schizophrenia. Asian Nurs Res, 7:168-174.

Lin E C-L, Shao WC, Chan ÇH, Shiau S, Wang H-S, Huang S-C (2013) A pilot study of an illness management and recovery program in discharged patients with schizophrenia. J Nurs Res, 21:270-277.

Matsuda M, Ayumi Kohno A (2016) Effects of the nursing psychoeducation program on the acceptance of medication and condition-specific knowledge of patients with schizophrenia. Arch Psychiatr Nurs, 30:581-586.

Mitra S, Natarajan R, Ziedonis D, Fan X (2017) Antioxidant and anti-inflammatory nutrient status, supplementation, and mechanisms in patients with schizophrenia. Prog Neuropsychopharmacol Biol Psychiatry, 78:1-11.

Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group (2009) Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. PLOS Med, 151:264–269.

Morin L, Franck N (2017) Rehabilitation interventions to promote recovery from schizophrenia: A systematic review. Front Pychiatry, 8:100.

Os J, Kapur S (2009) Schizophrenia. Lancet, 374:635-645.

Özdemir İ, Şafak Y, Örsel S, Karaoğlan Kahiloğulları A, Karadağ H (2017) Bir Toplum Ruh Sağlığı Merkezinde şizofreni hastalarına uygulanan ruhsal-toplumsal uyumlandırma etkinliğinin araştırılması: Kontrollü çalışma. Anadolu Psikiyatri Derg, 18:419-427.

Quee PJ, Stiekema AP, Wigman JT, Schneider H, Meer L der van, Maples NJ et al. (2014) Improving functional outcomes for schizophrenia patients in the Netherlands using Cognitive Adaptation Training as a nursing intervention-A pilot study. Schizophr Res, 158:120-125.

Stiekema A PM, T van Barajı M, Bruggeman R, Redmeijer JE, Swart M, Dethmers M, et al. (2020) Facilitating recovery of daily functioning in people with a severe mental ıllness who need longer-term ıntensive psychiatric services: results from a cluster randomized controlled trial on cognitive adaptation training delivered by nurses. Schizophr Bull, 46:1259-1268.

Üstün G, Küçük L, Buzlu S (2018) Bir Toplum Ruh Sağlığı Merkezi'nde uygulanan rehabilitasyon programlarına katılan ve katılmayan şizofreni hastalarının bazı sosyodemografik ve hastalıkla ilişkili özellikleri ile tedaviye uyumları ve öz-yeterlilikleri açısından tanımlanması. J Psychiatric Nurs, 9:69-79.

Yang CY, Lee TH, Lo SC, Beckstead JW (2015) The effects of auditory hallucination symptom management programme for people with schizophrenia: A quasi-experimental design. J Adv Nurs, 71:2886-2897.

Yang M, He H, Duan M, Chen X, Chang X, Lai Y et al. (2018) The effects of music ıntervention on functional connectivity strength of the brain in schizophrenia. Neural Plast, 2018:2821832.

Yazıcı A (2001) Şizofrenide Psikososyal Tedaviler: Şizofrenik Hastalarda Ruhsal Eğitim Grupları. İstanbul: Kutu Grafik.

Ye M, Guo J, Song C, Zheng F (2017) Effects of out-of-hospital continuing nursing on schizophrenia patients' rehabilitation and quality of life. Open Med, 12:501-505.

Yıldız M (2005) Şizofrenili hastaların ayaktan tedavisinde ruhsal ve toplumsal girişimler neden gereklidir ve nasıl uygulanabilir. In Neden Nasıl Şizofreni (Ed. S Candansayar): 237–268. Ankara, Peday Yayınları.

Yıldız M, Tural Ü, Kurdoğlu S, Önder ME (2003) Şizofreni rehabilitasyonunda aile ve gönüllülerle yürütülen bir kulüp-ev denemesi. Turk Psikiyatri Derg, 14:281-287.

Yıldız M, Yazıcı A, Ünal S, Aker T, Özgen G, Ekmekçi H et al. (2002) Şizofreninin ruhsal-toplumsal tedavisinde sosyal beceri eğitimi: Belirtilerle başetme ve ilaç tedavisi yaklaşımının Türkiye'de çok merkezli bir uygulaması. Turk Psikiyatri Derg, 13:41-47.

Authors Contributions: The authors attest that she has made an important scientific contribution to the study and has assisted with the drafting or revising of the manuscript.

Peer-review: Externally peer-reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.