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RESEARCH

Contribution of Skills Training in a Community Mental Health Center to Daily Living Activities and Cognitive Functions

Bir Toplum Ruh Sağlığı Merkezindeki Beceri Eğitimlerinin Günlük Yaşam Aktiviteleri ve Bilişsel Fonksiyonlara Katkısı

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Abstract

The aim of this study was to investigate the contribution of skill training provided in a community mental health center to cognitive functions and activities of daily living of patients with schizophrenia, schizoaffective disorder or bipolar disorder. Our study included 39 patients, who regularly attended the skill training carried out in a community mental health center. The patients were administered the Montreal Cognitive Assessment (MoCA) test and the Lawton Instrumental Activities of Daily Living (IADL) scale at the beginning of the study and at the end of 6th month. A statistically significant increase was observed in the end of 6th month scores of both scales compared to their baseline values. As a conclusion, the skill training help patients improve their cognitive functions and they are assumed to enable patients to perform their daily activities on their own by having positive contribution to their activities of daily living and to help them become more active in their social relationships.

Keywords*:* Skill training, community mental health, cognition, functionality.

Öz

Çalışmamızda bir toplum ruh sağlığı merkezinde uygulanan beceri eğitimlerinin şizofreni, şizoaffektif bozukluk, bipolar bozukluk hastalarının bilişsel fonksiyonlarına ve günlük yaşam aktivitelerine olan katkısını araştırmak hedeflenmiştir. Çalışmamıza, Toplum Ruh Sağlığı Merkezinde uygulanan beceri eğitimlerine düzenli olarak katılan 39 hasta dâhil edilmiştir. Hastalara çalışmanın başında ve 6. ayın sonunda Montreal Bilişsel Değerlendirme Ölçeği, Lawton-Broody Enstrumental Günlük Yaşam Aktivite-leri Ölçeği uygulanmıştır. Uygulanan iki ölçekte de 6. ayın sonunda ölçülen puanlarda istatistiksel açıdan anlamlı düzeyde yükselme olduğu görülmüştür. Sonuç olarak uygulanan beceri eğitimlerinin hastaların bilişsel fonksiyonlarını geliştirdiği ve günlük yaşam aktiviteleri üzerinde olumlu katkıda bulunarak hastaların günlük aktivitelerini kendi başlarına yapmalarına imkân sağlayacağı ve sosyal ilişkilerinde daha aktif olmalarına yardımcı olduğu belirlenmiştir.

Anahtar sözcükler: Beceri eğitimi, toplum ruh sağlığı, biliş, işlevsellik.

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MENTAL DISORDERS are the leading ailments causing disability across the world (Kessler et al. 2009).Failure of medical treatment alone to produce the desired clinic response in patients increases interest in additional treatment options. So the World Health Organization (WHO) recommends a community-based mental health model (2001).Community mental health centers (CMHC) form the foundation of the community-based mental health model to keep patients in active treatment outside hospitals. These centers have been established to provide psychosocial support services to patients with severe mental disorders such as bipolar disorder, schizophrenia and other psychotic disorders. Schizophrenia, psychosis and bipolar disorders are associated with cognitive disorders in areas such as executive function, attention and memory (Halder and Mahato 2015, Bostock et al.2017).Patients' functionality is related to duration and medical treatment of the disorder (Bowie 2005).With psychosocial interventions applied in addition to medical treatment, the rates of interruption of treatment and the risk of recurrence decrease, quality of life and social cognitive functioning improve (Guo et al. 2010, McGurk et al.2017). A social skill training which involves positive and corrective feedback to teach behavioral rehearsal and more effective interpersonal skills by way of modeling and role plays, is an evidence-based intervention that has been recommended by the Patient Outcomes Research Team (PORT) as a key treatment for schizophrenia in the treatment guidelines in the USA (Dixon et al. 2009).

In 2008, Turkey made a transition from the services based on conventional mental health hospitals to the community-based mental health model and CMHCs are spreading fast in our country. A CMHC is composed of healthcare teams, psychiatrists, nurses, social service specialists, psychologists, occupational therapists and other mental health professionals. The usual approach in community-based mental health services is to keep patients in active treatment outside the hospitals (Randall et al. 2015). After patients register to a CMHC; psychotherapy, psychoeducation and skill trainings are provided to the patients. The teachers appointed for skill trainings and occupational therapists work with the members in the CMHC every weekday.

The purpose of this study is to investigate the contribution of skill trainings provided in a CMHC to cognitive functions and activities of daily living of patients.

Method

The study included all patients who were registered at Gaziantep Dr. Ersin Arslan Training and Research Hospital CMHC between January 2017 and June 2017 and who regularly attended the skill trainings. The study group consist a total of 39 patients who were diagnosed with bipolar disorder, schizophrenia and schizoaffective disorder according to the diagnostic criteria of the Diagnostic Statistical Manual of Mental Disorders 5 (DSM 5) after a psychiatric interview carried out by a psychiatrist (APA 2013). Receiving training at least 2 hours a day and 3 days a week is considered regular attendance to skill trainings. Patients participated social independence living skills like watching educational videos, painting, group practicing, role playing, finishing a task and having role in collective social activities. Of these patients, 23 were being treated for schizophrenia (59%), 15 for bipolar disorder (38%) and 1 for schizoaffective disorder (2.6%). This study was approved by Gaziantep University Ethics Committee before the collection of data. (Ethical code:2017/205) Scales were applied to patients at the beginning of the study and at the end of 6th month. The exclusion criteria were age

under 18, substance abuse or addiction, dementia, moderate or severe mental retardation and organic mental disorders.

Assessment Instruments

The Montreal Cognitive Assessment (MoCA)

It is a short screening tool used for identifying mild cognitive disorders in a period reported to be approximately 10 minutes. The cognitive areas evaluated by MoCA include spatial visualization ability, language, attention, memory, executive functions, abstraction, calculation and guidance. The total score is from 0 to 30, 26 and above showing "normal" cognitive functioning (Nasreddine et al. 2015). Its validity and reliability study in Turkish has been done for patients with Parkinson's disease (Ozdilek and Kenangil 2014).

The Lawton Instrumental Activities of Daily Living (IADL) scale

This scale measures the subjective independence level in instrumental activities of daily living. The responses given to eight questions in a scale of four to six points give the total score which can range from 0 (no problem) to a maximum of 22 (extremely impaired) (Lawton and Brody 1988). With these questions, the level of independence of daily living activities such as the use of telephone, shopping, food preparation, house cleaning, laundry, traveling on its own, the responsibility to use drugs and the ability to manage financial affairs were measured.

Statistical Analysis

The SPSS 22.0 program (IBM Corporation, Armonk, NY) was used for analyzing the variables. $P<0.05$ was considered significant. Whether the numeric data had a normal distribution was tested with the Shaphiro Wilk test. The matched-pairs t test was used to compare the dependent measures of normally distributed numeric variables. The relationships between the numeric variables were tested with the Pearson correlation coefficient.

Results

A total of 39 patients with schizophrenia, schizoaffective disorder and bipolar disorder were included in the study. The mean age of these patients was 39.82±9.95 and their mean number of hospitalizations was 5.10± 7.60. Patient group consisted of 39 (82.1%) males and 7 (17.9%) females. Patients' mean PANSS score was 66.83+17.41 and PANSS negative score was 16.53+5.61 in schizophrenia patients. The sociodemographic and clinical characteristics of the patients are shown in Table 1.

The baseline and end-of-6th Month scores of the scales applied to the patients were calculated as 16.90 ± 5.57 and 22.03± 4.30 ($p<0.001$) for MoCA, 8.31± 3.84 and 11.18 ± 2.86 ($p<0.001$) for IADL (Table 2). A statistically significant increase was observed at the end of the 6th month scores of both scales compared to their baseline scores. The patients were also assessed after being grouped with respect to their gender (M: 32, F: 7), diagnosis (Schizophrenia: 23, bipolar disorder: 15, schizoaffective disorder: 1), marital status (Single: 16, married: 15, widowed: 8) and education level (Primary school graduate: 15, secondary school graduate: 10, high school graduate: 10) and no significant difference was found between the groups with respect to their scale scores concerning cognitive functions and activities of daily living.

Table 1. Socio-demographic and clinical characteristics of patients

		n	%
Diagnosis	Schizophrenia	23	59.0%
	Bipolar disorder	15	38.5%
	Schizoaffective disorder	1	2.6%
Gender	Male	32	82.1%
	Female	7	17.9%
Marital Status	Single	16	41.0%
	Married	15	38.5%
	Divorced	7	17.9%
	Widowed	1	2.6%
Education	Illiterate	1	2.6%
	Literate	2	5.1%
	Primary school graduate	15	38.5%
	Secondary school graduate	10	25.6%
	High school graduate	10	25.6%
	University graduate	1	2.6%
Alcohol		1	2.6%
Smoking		28	71.8%
Substance Use		0	0.0%

There was no correlation between the patients' ages and their scale scores (Table 3) according to correlation analyses. There was a strong significant correlation between the MoCA baseline scores and MoCA 6th month scores.

Table 2. Comparison of baseline and 6th month scores of IADL and MoCA

mean±SD	Baseline	6th month	P
IADL	8.31±3.847	11.18±2.864	0.001*
MoCA	16.90±5.572	22.03±4.307	0.001*

MoCA: Montreal Cognitive Assessment; IADL: Lawton Instrumental Activities of Daily Living scale

Table 3. Age and scale score correlations

		Age	IADL baseline	MoCA Baseline	IADL 6th month	MoCA 6th month
Age	r	1	-.233	-.152	-.117	-.110
	p		.153	.356	.478	.503
IADL Baseline	r	-.233	1	.278	.754**	.347*
	p	.153		.087	.000	.030
MoCA Baseline	r	-.152	.278	1	.077	.717**
	p	.356	.087		.641	.000
IADL 6th Month	r	-.117	.754**	.077	1	.185
	p	.478	.000	.641		.259
MoCA 6th Month	r	-.110	.347*	.717**	.185	1
	p	.503	.030	.000	.259	

*p<0.05; **p<0.01; MoCA: Montreal Cognitive Assessment; IADL: Lawton Instrumental Activities of Daily Living scale

Discussion

The results have shown that the social skill trainings provided in CMHC is an effective psychosocial intervention to improve the activities of daily living and cognitive functions of the patients with schizophrenia and bipolar disorder. The study included patients diagnosed with schizophrenia, schizoaffective disorder and bipolar disorder who were registered to Gaziantep Dr. Ersin Arslan Training and Research Hospital CMHC, which has been rendering services in southeast Turkey for 6 years. It was observed that skill trainings would enable patients to perform their daily activities on their own and help them become more active in their social relationships. In summary, the skill trainings had provided positive impact on primary outcomes. There was a significant difference in both clinical assessment scales after six month skill training compared to the baseline.

In the conference held by WHO in 2005, "Rendering effective care through community-based services for individuals with severe mental disorders" was shown among the primary goals. In Turkey, the National Mental Health Policy (Saglik Bakanligi 2006) suggested community-based mental health model and integration first line treatment into the general health system. CMHCs established for these purposes. The services provided to patients with schizophrenia, schizoaffective and bipolar disorders in the CMHC were found to increase quality of life, general and social functioning markedly (Sahin and Elboga 2018). Similarly, improvement was observed in activities of daily living in our study; moreover, the effect of skill trainings on cognitive functions was also evaluated. The relationship between social skill trainings and cognitive functions has not been investigated in the Turkish CMHC population so far. Our study showed that there was improvement in the cognitive functions of the patients who participated in the social skill trainings. We obtained a result similar to those of the previous group-based studies focusing on low-dose antipsychotic medications, cognitive-behavioral psychotherapy, family training and support, and educational improvement for psychosocial functioning and negative symptoms (Kurtz and Mueser 2008, Granholm et al. 2014). The correlation analyses revealed a moderate correlation between baseline activities of daily living and cognitive evaluation at 6th month. The correlation between the baseline MoCA and IADL scores was weak. This result suggests that the baseline activities of daily living of the patients were important for the improvement in their cognitive functions. Contrary to the studies showing that age has a considerable contribution to the estimated MoCA score or cognition, we did not find any correlation between the ages of the CMHC patients included in the study and the scale scores (Freitas et al. 2012). Lower levels of education also have a negative effect on cognitive functions (Artero et al. 2008).The patients' gender, diagnosis, marital status and education level were not found correlated with their scale scores related to cognitive functions and activities of daily living in our study. But healthy subjects were evaluated in those previous studies. We already assessed the patients who had severe mental disorders with cognitive dysfunctions.

In our study majority of participants were male. A study found that male patients with schizophrenia are more likely to visit the mental health rehabilitation unit because of greater disease severity (Petkari et al. 2017). Similarly males are more active to participate to a CMHC in Turkey (Sahin and Elboga 2019).

The effect of the social skill trainings in CMHCs on functioning was strongly sig-

nificant. This shows that the effect of social skill trainings on functioning is similar to the effect of other psychosocial treatments including cognitive improvement for psychosis in patients with bipolar disorder, schizophrenia and other psychoses (Granholm et al. 2014, McGurk et al.2007) Studies have shown that group therapies with an integrative approach provided to patients with schizophrenia have positive contribution to quality of life, general and social functioning (Yıldız et al. 2004, Ucok et al. 2002). Significant changes were observed in some patients who had participated in social skill trainings. The patients also began socializing with others, taking part in housework and using public transportation. The success in treatment of such psychiatric disorders is very much influenced by compliance with treatment (Demirkol and Tamam 2016). Psychosocial intervention in combination with medical treatment lowers the rate of interruption or change in treatment and improves social functioning(Guo et al. 2010).

These gains are unique and significant for each individual. Increased regular use of medication may also have influenced the improvement in social functioning. The results of many studies have demonstrated the positive effects of early integrative interventions and many countries allocated funds for early intervention in psychoses in their mental health policies (Coentre et al. 2011, McGorry et al. 2010), but very few randomized controlled studies have compared a multimodal and multidisciplinary team-based program to an ordinary psychosis therapy in an outpatient clinic setting.

The Canadian treatment guideline has introduced a new guidance for the treatment of schizophrenia or psychotic disorders and psychosocial treatment of children and youth, evidence-based treatments. If followed, these guidelines will facilitate recovery of patients with schizophrenia or a psychotic disorder together with their families (Lecomte et al. 2017). They include important outcomes for patients, family members and clinicians. CMHCs accomplish these goals with an understanding of a desired multidisciplinary team.

One of the limitations of our study was our reliance on MoCA for cognitive assessments. Although MoCA is a good and approved tool to assess global cognition, it has no specificity for schizophrenia or bipolar disorder. The validity and reliability study of the IADL scale for Turkey has not been conducted yet. Use of specific tests in further studies can underline certain cognitive areas that are affected. The weak correlation between activities of daily living and cognitive function improvement and likewise no correlation between age and education may be associated with the small number of patients. Another limitation of our study was the lack of a control group consisting of patients utilizing only outpatient clinic services.

In conclusion, participation in a social skill program in a CMHC was found to be associated with considerable improvement in social skills, activities of daily living and cognitive functions in schizophrenia, schizoaffective disorder and bipolar disorder. Social functioning shows critical importance for patients with severe mental disorders. The efforts of CMHCs have the potential to reduce the critical risk factors related to improvement of functioning and development of cognitive functions. A period of six months, which was the follow-up time of this study, may be considered short to identify the possible advantages of regular attendance to a CMHC for patients with schizophrenia and bipolar disorder; further studies exploring the effect of longer follow-up will be beneficial.

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