THE EFFECTIVENESS OF FAMILY PSYCHOLOGICAL TRAINING PROGRAM APPLIED TO RELATIVES OF PATIENTS WITH SCHIZOPHRENIA

Lütfiye Süğütlü¹, Cenik Varlık², Ahmet Güler¹, Yıldız Bilge¹ & Seyyide Şifa Göktas¹
¹Department of Psychology, University of Health Sciences, Istanbul, Turkey
²Department of Psychiatry, Bakirkoy Research and Training State Hospital, Istanbul, Turkey
³Health Directorate of Üsküdar, Addiction Center, Istanbul, Turkey

received: 22.2.2021; revised: 29.4.2021; accepted: 20.5.2021

SUMMARY
Background: The aim of the study is to improve the family relations of the patients who suffer for schizophrenia, to ensure the participation of the family in the treatment, to improve treatment compliance and to reduce relapse.

Subjects and methods: A total of 80 caregivers of the patients, consisting of 40 people as a study group and 40 as a control group, the training was given in two sessions of forty five minutes twice a week, 24 sessions completed in approximately three months. It was applied in both groups at the beginning and end of the training the scales that are the test batteries.

Results: While there was no difference between the two groups according to the pre-test scores obtained before the family psychological training program, according to the post-test scores, there was a significant difference between two groups in terms of symptoms of depression and anxiety, solution-oriented coping, emotion-oriented coping, dangerous perception of the disease and emotion expression.

Conclusion: The training programme thought that the family psychological training support to be given to the relatives of patients with schizophrenia will both contribute positively to the treatment and play an effective role in the adaptation of the disease.

Key words: the family psychological training program – schizophrenia - caregivers of patients - the burden of care

INTRODUCTION

According to the World Health Organization (WHO) (2018), schizophrenia is a chronic and serious mental illness affecting more than 21 million people worldwide and is one of the 15 most important causes of disability worldwide (Vos et al. 2017). In schizophrenia due to the skills required for self-care, interpersonal relationships and professional success are highly impaired, most patients spend a significant periods of their lives dependent on their families. After the modulation to a community-based treatment model in schizophrenia, the majority of patients with chronic mental illness started living with their families after acute psychiatric treatment. Therefore, the responsibility of the patients’ relatives for the continuation of the treatment has increased gradually (Lauber et al. 2003, Yu et al. 2019).

It is estimated that the rate of living with the families of patients with schizophrenia in our country is more than 95%. It is stated that the most important supporters of patients with schizophrenia when they return to social life after deinstitutionalised are their families and play a more important role in the treatment and adaptation process even than the health care team. Thus, it is stated that it is very important to understand the needs, distress and expectations of patient relatives (Yıldız 2000, Yıldız 2005, Bustillo et al. 2000, Doğan et al. 2002).

Conducted studies determined that stressful situations which are occured with the aim of caregiving even if the family members were initially healthy, there might be deterioration in their health and functionality in the process (Magliano et al. 2005, Mokwena & Ngoveni 2020). Although these deteriorations primarily affect the caregivers, it is inevitable that it affects the patients with schizophrenia in the process.

The fact that schizophrenia is a chronic disease creates new and difficult tasks related to caregiving and therefore becomes an objective source of stress for the caregiver, and so adversely affect both the physical and mental health of the caregiver. Anxiety, guilt, anger, stigmatization, loneliness, desperation, frustration are often expressed by many caregivers. They also report mental health problem driven from care. It has been shown an increase in the prevalence of psychiatric morbidity in caregivers of relatives with mental illness, especially depression and anxiety. Comparative studies have shown that depressive symptoms are twice as prevalent in caregivers than in non-caregivers, are more mentally and physically distressed than the same age group, and many are at risk of developing clinical depression without a history of mood disorders (Esther 2003, Heru and Ryan 2002, Shah et al. 2010, Kızılrmak & Kütçük 2016, Fekadu et al. 2019).

Schizophrenia is one of the most burdening mental illnesses for family members. Although the prevalence
of schizophrenia is relatively low, the burden of disease is quite heavy and caregivers of patients with schizophrenia have been shown to feel more severe burden. In the studies, it was dwelled on various variables that may take the pressure off caregivers burden and many factors related to the patient, the disease and the caregiver were identified. Among the determinants of the caregiver burden, besides the factors related to the patient and the disease, coping skills, beliefs about the disease and expression of emotion have an important place. It is stated that caregivers may feel helpless because of the consequences they are exposed to when they are not aware of how to cope with the illness-related difficulties they face in their daily lives (Gülseren et al. 2010, Maldonado et al. 2005, Ebrahimi et al. 2018, Rahmani et al. 2019).

The information obtained from the conducted studies indicate that the relatives of the patients have negative beliefs, attitudes and stigmatization towards mental illness and affect the patient and the disease in a negative way. It is known that this situation may limit the adaptation of people who have mental illness to join society by creating serious obstacles. Moreover, It is emphasized that high emotion expression is associated with poor clinical course, frequent hospitalizations, frequent repetition, depression and suicide, especially in patients with schizophrenia (Magliano et al. 2005, Sağdую et al. 2003, Ươc 2007).

It is thought that only medications are inadequate to reduce the symptoms of schizophrenia. In addition to drug treatments, midterm and long term various psychological, social and psychotherapeutic interventions are considered to be beneficial. Especially family members’ whose care for the patients faiths about the disease, emotion expression, coping strategies affect their behaviors towards their patients and clinical course of the disease. Since those factors are important It is needed that family mental health education is given to patients in order to treat mental illnesses more effectively and increase the effectiveness of community mental health services.

Among the psychological social approaches used in the treatment of schizophrenic disorders, family psychological education and adjustment therapies are the most commonly used. The purpose of the education of families who have patients with schizophrenia to reduce relapse rates, to improve family functions, to enhance cooperation and treatment compliance (Doğan et al. 2004, Dixon et al. 2004).

In this study, it was objected to consider that whether the variables such as depression, anxiety, caregiving burden, coping, beliefs about mental illness and emotion expression changed or not after the education programme that may occur due to the stress because of being patients’ relatives, and this way the aim of this study is to examine the effectiveness of the psychological education program.

SUBJECTS AND METHODS

Participants

In this study, a quasi-experimental method consisting of a control group and pre-test and post-test scale was used. Primary caregivers of patients with schizophrenia who were diagnosed with schizophrenia according to DSM-IV and not the first attack, lasted at least one year after diagnosis, were hospitalized at least once and have been treated regularly at Professor Dr. Mazhar Osman Mental Health and Neurological Diseases Training and Research Hospital’s Küçükçekmece Community Mental Health Center were included to the study. The relatives of the patients who filled informed consent form to participate in the study were considered to be at least primary school graduates, not to have an organic mental disorder or mental retardation, and alcohol or psychoactive substance addiction.

The number of 40 caregivers of patients with schizophrenia who gave consent to participate in the study and those go to the community mental health center regularly were taken as the study group and 40 caregivers of patient with schizophrenia who continued only in the outpatient clinic controls were taken as the control group.

Research Tools

Sociodemographic Data Form

It is a form that includes sociodemographic data such as age, gender, education level, marital status, working status prepared by the researcher for the relatives of the patients considering the aims of the study.

Beck Depression Inventory (BDI)

The self-assessment scale developed by Beck (1961) for measuring emotional, cognitive, somatic and motivational symptoms of depression consists of 21 items and each item is scored between 0-3. The score obtained from the scale varies between 0 to 63. The Turkish validity and reliability study was conducted by Hisli (1989).

Beck Anxiety Inventory (BAI)

This is a 21-item self-assessment scale developed by Beck et al. (1988) to determine the frequency of anxiety symptoms. In the Likert-type scale, which is scored between 0 to 3, the total score ranges from 0 to 63, and the high score indicates the high level of anxiety experienced by the individual.

Coping with Stressful Situations Inventory Short Form (CISS)

The scale evaluates the behavior strategies used by the individual under three headings as solution-oriented coping, emotional coping and avoidant coping. A short form of 21 questions was developed by selecting the items with the highest validity for the sub-dimensions, aiming at ease of application from the long form of 48 questions developed by Endler and Parker in 1990.
The study was divided into two groups and the training program which was prepared for both groups was given in 24 sessions as two forty-five minutes twice a week for 12 weeks between February and April 2016 and completed in approximately three months. The psychological education program was conducted by a multidisciplinary team of four to six members: psychiatrists, clinical psychologists, psychiatric nurses. The test battery was applied by the researcher individually to the relatives of the patients in the two groups at the beginning and end of the training. Test battery was applied to the patient relatives in the control group on the same dates as the training group. The family psychological education program is shaped according to the current needs of the families and the literature (Anderson et al. 1986, Stengard 2003, Muesser & Glynn 1999). The subtitles of the mental education given to the participants are: definition of psychosis, etiology, symptoms of schizophrenia, living with hallucinations and delusions, the correct use of medicines and non-organic interventions, drug side effects, preliminary symptoms, relapse of the disease, the role of treatment in the prevention of relapse, recognizing and coping with persistent symptoms, coping strategies with schizophrenia, review of available social support and services.

### Analysing of Data
First of all, Pearson Correlation Coefficient was calculated to determine the correlations between the scores of the whole group. Descriptive statistics related to the scores of the scales used in the study are presented as mean and standard deviation. To evaluate the difference intergroups Mann-Whitney U and ingroups Wilcoxon Sign tests were used, since the groups did not show a normal distribution in the comparison of the scores of the scales applied before and after the mental training program. SPSS 20 program was used for statistical analysis and statistical significance was accepted as the level of significance (p=0.05).

### RESULTS

#### Sociodemographic Data Results
When the sociodemographic datas of the participants were examined, the participants in the study group, in terms of gender features, 30 female (75%) and 10 (25%) male; in terms of age, 10 people (25%) between the age of 22-45, 16 people (40%) between the age of 46-60 and 14 people (35%) 61-75; in terms of educational background, 34 people (85%) primary school graduates, 4 people (10%) high school graduates and 2 person (5%) university graduates; and in terms of intimacy degree 18 people (45%) mothers, 10 people (25%) fathers, 4 people (10%) siblings and 8 people (20%) spouses listed. On the other hand, the participants in the control group, in terms of gender features, 22 people (55%) female and 18 people (45%) male; in terms of age; 14 people (35%) were in the 22-45 age range, 16 people (40%) were in the 46-60 age range, and 10 people (25%) were in the 61-71 age range; in terms educational background, 26 people (65%) primary school graduates, 10 people (25%) high school graduates and 4 people (10%) university graduates; and in terms of intimacy degree 20 people (50%) mothers, 12 people (30%) fathers and 8 people (20%) spouses listed.
CORRELATION RESULTS

According to the correlation results between the scales applied to the whole group before starting the study; significant relationships were detected that are medium level of positive correlation between depression symptoms and anxiety symptoms of patient relatives \((r=0.62, p=0.000)\), between caregiving burden positively moderate \((r=0.54, p=0.000)\), between the solution-oriented coping positively weak \((r=0.34, p=0.035)\), between hopelessness and interpersonal relations deterioration positively weak \((r=0.32, p=0.046)\). While there was a significant positively moderate correlation between anxiety symptoms and caregiving burden \((r=0.59, p=0.000)\), between caregiving burden and avoidant coping was found to be significant positively weak \((r=0.34, p=0.031)\) also, we found a significant positively week correlation between caregiving and embarrassment of the disease \((r=0.33, p=0.037)\). No significant correlation was found between emotion expression and any scale.

Comparison of Study and Control Groups Results

The family psychological training program was applied to the relatives of the patients and it was carried out on the dates specified by the first researcher. Volunteers who participated in the study completed the study to the end. The attendance rate of the participants is about 75%. According to the results obtained from the analyzes, the mean and standard deviation values of the scores obtained from the pre-test and post-test applications of the participants in the study and control groups are given in Table 1.

When the pre-test and post-test scores of the two groups were compared, the difference between the groups according to the pre-test scores was not significant. According to the post-test scores, there were significant differences between the two groups in terms of symptoms of depression and anxiety, solution-oriented coping, emotion-oriented coping, dangerous perception of the disease and emotion expression. There was not detected significant difference in terms of care burden, avoidant coping, desperation and interpersonal relations deterioration and embarrassment of the disease (Table 2).

When the pre-test and post-test scores of the study and control groups were compared, a significant difference was found between the pre-test and post-test scores of the study group who participated in the family psychological education program in all scale scores except caregiving burden and desperation and interpersonal relations deterioration. In the control group who did not participate in the training program, no significant difference was found between the pre-test and post-test scores (Table 3).

Table 1. Arithmetic Mean and Standard Deviation Values of Pre-Test and Post-Test Scores of Study and Control Groups

<table>
<thead>
<tr>
<th>Scales</th>
<th>Study Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test; N=40</td>
<td>Post-Test; N=40</td>
</tr>
<tr>
<td>BDI</td>
<td>M 22.50</td>
<td>12.25</td>
</tr>
<tr>
<td></td>
<td>SD 9.12</td>
<td>7.29</td>
</tr>
<tr>
<td>BAI</td>
<td>M 14.25</td>
<td>8.55</td>
</tr>
<tr>
<td></td>
<td>SD 8.97</td>
<td>7.32</td>
</tr>
<tr>
<td>ZCBS</td>
<td>M 53.75</td>
<td>54.65</td>
</tr>
<tr>
<td></td>
<td>SD 17.65</td>
<td>19.93</td>
</tr>
<tr>
<td>CISS-21-SOC</td>
<td>M 13.95</td>
<td>23.65</td>
</tr>
<tr>
<td></td>
<td>SD 5.71</td>
<td>6.43</td>
</tr>
<tr>
<td>CISS-21-EOC</td>
<td>M 16.40</td>
<td>13.40</td>
</tr>
<tr>
<td></td>
<td>SD 6.99</td>
<td>6.01</td>
</tr>
<tr>
<td>CISS-21-AC</td>
<td>M 26.65</td>
<td>23.20</td>
</tr>
<tr>
<td></td>
<td>SD 5.91</td>
<td>5.98</td>
</tr>
<tr>
<td>BMI-D</td>
<td>M 20.00</td>
<td>13.10</td>
</tr>
<tr>
<td></td>
<td>SD 7.96</td>
<td>5.81</td>
</tr>
<tr>
<td>BMI-DIRD</td>
<td>M 26.05</td>
<td>27.15</td>
</tr>
<tr>
<td></td>
<td>SD 10.27</td>
<td>8.93</td>
</tr>
<tr>
<td>BMI-E</td>
<td>M 23.30</td>
<td>20.30</td>
</tr>
<tr>
<td></td>
<td>SD 7.55</td>
<td>6.25</td>
</tr>
<tr>
<td>EES</td>
<td>M 16.10</td>
<td>11.80</td>
</tr>
<tr>
<td></td>
<td>SD 6.09</td>
<td>4.29</td>
</tr>
</tbody>
</table>

BDI: Beck Depression Inventory; BAI: Beck Anxiety Inventory; ZCBS: Zarit Care Burden Scale; CISS-21-SOC: The Coping Inventory for Stressful Situations, Solution-oriented Coping; CISS-21-EOC: The Coping Inventory for Stressful Situations- Emotion-oriented Coping; CISS-21-AC: The Coping Inventory for Stressful Situations -Avoidant Coping; BMI-D: Beliefs Toward Mental Illness Scale-Danger; BMI-DIRD: Beliefs Toward Mental Illness Scale- Desperation and Interpersonal Relations Deterioration; BMI-E: Beliefs Toward Mental Illness Scale- Embarrassment; EES: Expressed Emotion Scale
The effectiveness of family psychological training program applied to relatives of patients with schizophrenia

Table 2. Results of Comparison of Pre-Test and Post-Test Scores of Study and Control Groups According to Scales

<table>
<thead>
<tr>
<th>Scales</th>
<th>Groups N=40+40</th>
<th>Pre-Test Scales</th>
<th>Post-Test Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Z</td>
<td>p</td>
</tr>
<tr>
<td>BDI</td>
<td>Study Control</td>
<td>-0.298</td>
<td>0.779</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.203</td>
<td>0.841</td>
</tr>
<tr>
<td>BAI</td>
<td>Study Control</td>
<td>-0.501</td>
<td>0.841</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.802</td>
<td>0.429</td>
</tr>
<tr>
<td>ZCBS</td>
<td>Study Control</td>
<td>-1.685</td>
<td>0.096</td>
</tr>
<tr>
<td>CISS-21-SOC</td>
<td>Study Control</td>
<td>-1.872</td>
<td>0.063</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.203</td>
<td>0.841</td>
</tr>
<tr>
<td>CISS-21-EOC</td>
<td>Study Control</td>
<td>-0.501</td>
<td>0.841</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.802</td>
<td>0.429</td>
</tr>
<tr>
<td>CISS-21-AC</td>
<td>Study Control</td>
<td>-0.501</td>
<td>0.841</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.802</td>
<td>0.429</td>
</tr>
<tr>
<td>BMI-D</td>
<td>Study Control</td>
<td>-0.203</td>
<td>0.841</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.203</td>
<td>0.841</td>
</tr>
<tr>
<td>BMI-DIRD</td>
<td>Study Control</td>
<td>-0.203</td>
<td>0.841</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.203</td>
<td>0.841</td>
</tr>
<tr>
<td>BMI-E</td>
<td>Study Control</td>
<td>-0.501</td>
<td>0.841</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.802</td>
<td>0.429</td>
</tr>
<tr>
<td>EES</td>
<td>Study Control</td>
<td>-0.976</td>
<td>0.341</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>-0.976</td>
<td>0.341</td>
</tr>
</tbody>
</table>

BDI: Beck Depression Inventory; BAI: Beck Anxiety Inventory; ZCBS: Zarit Care Burden Scale; CISS-21-SOC: The Coping Inventory for Stressful Situations, Solution-oriented Coping; CISS-21-EOC: The Coping Inventory for Stressful Situations Emotion-oriented Coping; CISS-21-AC: The Coping Inventory for Stressful Situations Avoidant Coping; BMI-D: Beliefs Toward Mental Illness Scale-Danger; BMI-DIRD: Beliefs Toward Mental Illness Scale Desperation and Interpersonal Relations Deterioration; BMI-E: Beliefs Toward Mental Illness Scale Embarrassment; EES: Expressed Emotion Scale

Table 3. Findings Regarding the Difference Between Pre-Test and Post-Test Scores of the Study and Control Groups According to the Scales

<table>
<thead>
<tr>
<th>Scales</th>
<th>Group</th>
<th>Study Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Z</td>
<td>p</td>
<td>Z</td>
</tr>
<tr>
<td>BDI</td>
<td>-3.924</td>
<td>0.000</td>
<td>-1.054</td>
</tr>
<tr>
<td>BAI</td>
<td>-3.747</td>
<td>0.000</td>
<td>-0.019</td>
</tr>
<tr>
<td>ZCBS</td>
<td>-0.561</td>
<td>0.575</td>
<td>-0.711</td>
</tr>
<tr>
<td>CISS-21-SOC</td>
<td>-3.926</td>
<td>0.000</td>
<td>-0.306</td>
</tr>
<tr>
<td>CISS-21-EOC</td>
<td>-3.172</td>
<td>0.002</td>
<td>-0.9555</td>
</tr>
<tr>
<td>CISS-21-AC</td>
<td>-2.850</td>
<td>0.004</td>
<td>-1.687</td>
</tr>
<tr>
<td>BMI-D</td>
<td>-3.514</td>
<td>0.000</td>
<td>-1.837</td>
</tr>
<tr>
<td>BMI-DIRD</td>
<td>-0.499</td>
<td>0.618</td>
<td>-0.819</td>
</tr>
<tr>
<td>BMI-E</td>
<td>-2.746</td>
<td>0.006</td>
<td>-0.769</td>
</tr>
<tr>
<td>EES</td>
<td>-2.917</td>
<td>0.004</td>
<td>-0.729</td>
</tr>
</tbody>
</table>

BDI: Beck Depression Inventory; BAI: Beck Anxiety Inventory; ZCBS: Zarit Care Burden Scale; CISS-21-SOC: The Coping Inventory for Stressful Situations, Solution-oriented Coping; CISS-21-EOC: The Coping Inventory for Stressful Situations Emotion-oriented Coping; CISS-21-AC: The Coping Inventory for Stressful Situations Avoidant Coping; BMI-D: Beliefs Toward Mental Illness Scale-Danger; BMI-DIRD: Beliefs Toward Mental Illness Scale Desperation and Interpersonal Relations Deterioration; BMI-E: Beliefs Toward Mental Illness Scale Embarrassment; EES: Expressed Emotion Scale

DISCUSSION

As well as psychopharmacological treatment in schizophrenia, psychological social approaches are the part of the treatment that affect the course of the disease in a good way (Karon and Vanden Bos 1972, Penn et al. 2005, Dirik et al. 2017, Pharoah et al. 2010). From this point of view, in the present study, the effectiveness of the family mental education program prepared for the relatives of patients with schizophrenia who undertook the burden of an intractable disease and therefore have a taff life was examined. The family psychological training program aimed to provide accurate information about schizophrenia to patients’ relatives, to have realistic expectations about the disease and what the patient can do, to reduce relapses by regulating family functio-
The effect of family psychological training program applied to relatives of patients with schizophrenia on the quality of life and caregiving burden was investigated. The study involved two groups: a training group and a control group. Various self-report scales were used to measure depression, anxiety, caregiving burden, coping, beliefs about the disease, and emotion expression. The study found that after the training, the training group showed significant improvements in depression, anxiety, coping, and a more positive interpretation of the disease. The control group did not show these improvements.

The findings of the study support the effectiveness of family psychological training programs in reducing stigma, improving the quality of life, and reducing caregiving burden. The program can also contribute to increasing empathy, providing education, improving treatment processes, and informing patients and their relatives. The study also highlights the need for follow-up studies to evaluate long-term effects and the applicability of the program in different settings.

Limitations of the study include the small number of samples, the generalizability of the results, and the need for further research to confirm the findings. Further studies could include a larger sample size, different settings, and additional scales to measure the impact of the training program on family caregivers.
CONCLUSION

In conclusion, this study shows that mental health education program is effective in patients' relatives with schizophrenia and that reduces depression, anxiety symptoms and dangerous perception of the disease of the patients' relatives, possibly caused by patient care burden, and increases solution-oriented and emotion-focused coping strategies and emotion expression. It has been found that it is beneficial to apply the programs equivalent to the family mental health education program prepared for the relatives of schizophrenia patients. In our opinion, our study is very valuable to meet the neglected needs of psychiatric patients.

Acknowledgements: None.

Conflict of interest: None to declare.

Contribution of individual authors:
Lütfiye Söğütüll: design, data collection and writing up of the paper.
Cenk Varlık: data collection and writing up of the paper.
Ahmet Güler, Yıldız Bilge & Seyyide Şifa Göktas: design and writing up of the study.

References
15. Çetinkaya Duman Z, Aştın N, Çokş A, Kışçiu MK: The social and independent living skills, the community re-entary program for and follow-up of patients with schizophrenia and their families. Anadolu Psikiyatri Dergisi 2007; 8(2):91-101
31. He R: Effect of psychoeducation for family members of people with schizophrenia. World Health Dg J New Med 2002; 5:7:1249
39. National Mental Health Project Working Group; 2005
50. Ran MS, Chan CW, Ng SM, Guo LT, Xiang MZ, The effectiveness of psychoeducational family intervention for patients with schizophrenia in a 14-year follow-up study in a Chinese rural area. Psychological medicine 2015; 45(10):2197-2204
56. Tel H, Terakey G: The effects of psychoeducational approach for the handling of disease symptoms and coping with stress among relatives of schizophrenic patients. Anadolu Psikiyatri Dergisi 2000; 1(3):133


Correspondence:
Assistant Professor Lütfiye Söğütü, MD
Department of Psychology, University of Health Sciences
Istanbul, Turkey
E-mail: lutfiyeulgeli@hotmail.com