



## Experimental Research

# Effects of psychoeducation applied to caregivers of patients diagnosed with chronic mental disorder on caregivers' difficulties and psychosocial adaptations

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### Abstract

**Objectives:** This study aimed to evaluate the effectiveness of a psychoeducation program given to caregivers of patients with chronic mental disorder who were treated in a psychiatric clinic of a university hospital.

**Methods:** A semi-experimental, control group pretest-post-test design was used for this study, which was conducted between June 2015 and April 2016 with 40 caregivers of patients who were diagnosed with chronic mental disorders. Data were collected using an introductory information form, the Caregiver Burden Scale (CBS) and the Psychosocial Adjustment to Illness Scale Self-Report (PAIS-SR). An 8-session, semi-structured psychoeducation program was administered to the caregivers of the patients who were diagnosed with chronic mental disorders. In the analysis of the data, descriptive statistics, correlation analysis, independent samples t-test, and paired samples-test were used.

**Results:** In the experimental group, 60% of the caregivers were female, 50% were the parents of the patients, and 40% were literate and/or primary school graduates. The mean age of the study group caregivers was  $53.60 \pm 10.63$ . The patients of the study group caregivers had been under their care for a mean of  $13.84 \pm 11.88$  years, had been being treated for a mean of  $4.89 \pm 6.36$  years, and had been hospitalized a mean of  $3.85 \pm 2.37$  times. There was no statistically significant difference between the pre- and post- psychoeducational CBS score averages in the experimental and control groups ( $p > 0.05$ ). There was also no statistically significant difference between the pretest and post-test PAIS-SR subscale scores of the experimental group ( $p > 0.05$ ). However, there were statistically significant differences between the mean pretest and post-test PAIS-SR subscale scores of the control group ( $p > 0.05$ ).

**Conclusion:** Although it appeared that the psychoeducation did not significantly affect the caregivers' psychosocial adaptations to the disease or the perception of caregivers, the decrease in the psychosocial adjustment of the control group, especially in the "sexual relationship" and "extended family relationships" subscales, was not observed in the experimental group. This suggests that the provision of psychoeducation prevents this decrease.

**Keywords:** Burden care; chronic mental disorder; psychiatric nursing; psychoeducation; psychosocial adaptation.

Chronic psychotic disorders include schizophrenia, schizoaffective disorders and other psychopathic disorders, major depression, bipolar depression and chronic obsessive-compulsive disorder, all of which can result in impairment to personal care, social relations, business life and leisure activities.<sup>[1,2]</sup> In addition to the loss in cognitive ability and social and

economic disruption that chronic psychotic disorders cause, these disorders also regularly require that families take on the care and support of the individual suffering the disorder, as these individuals tend to be incapable of fulfilling normal roles in the family and society and often have no alternative living space.<sup>[3-8]</sup>

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Providing care is a process that involves giving emotional, physical, moral and material support, like coordinating the health care and social services needed by the patient, performing routine health care (taking medicine, treatment, monitoring etc.) and personal care, arranging transport, doing her/his shopping and housework, managing her/his money and sharing the same house. Generally, it is the patient's mother, spouse, child or siblings who assume the responsibility of providing support and care.<sup>[2,4,7]</sup> Today, with the reduction in the length of hospital stay that has emerged in favor of treatment approaches, caregivers bear the brunt of responsibility for the patients' adjustment to treatment and for providing social support and maintaining the continuity of the care. Caregivers face a wide variety of difficulties when trying to fulfill these responsibilities, and this can cause them to experience anxiety, stress, guilt, helplessness, weakness, fear, loss and anger,<sup>[3,5,7,9]</sup> all of which can affect their quality of life negatively.<sup>[8,10,11]</sup> These difficulties experienced by the caregivers have given rise to the concept of "caregiver burden", which includes all the physical, mental, social, and economic problems faced by the relatives of an individual with chronic psychological problems.<sup>[4,8-10]</sup> The perceived burden experienced by the caregivers affects their level of well-being, marital relationships, care satisfaction, relations with other people, and the severity of the patient's illness,<sup>[11-14]</sup> especially in cases when the patient is under the direct care of a family member.<sup>[4,10,14-17]</sup> In a focus group study conducted with caregivers of patients with schizophrenia and bipolar disorder, the difficulties experienced by parents included ostracism, social isolation, prejudice and stigmatization, the effects of the disease on family functions, financial problems, restrictions on various social and leisure activities, and negative effects on health.<sup>[16]</sup>

The numerous problems caregivers experience in coping with chronic psychological diseases and the several difficulties are intensified if they do not have adequate knowledge and resources. Therefore, it is important that those tasked with the care of individuals with chronic mental disorders are supported and trained about the diseases, and above all, that they are aware of the types of therapy available to help ease the caregiving burden.<sup>[4,9,14,17-22]</sup> It is here that the psychological health team, particularly the nurses who cooperate with the caregivers, have important responsibilities in training and providing education programs for the patients and their caregivers. The education and counseling duty of "Psychiatric Clinical Nurses" and "Community Mental Health Center Nurses" for patients and their families is clearly defined in the March 8, 2010 dated Nursing Regulations.<sup>[23]</sup> Within this context, psychiatry team members are supposed to provide information to the relatives of the patients and give them psychiatric education (Psychoeducation).<sup>[4,9,14,17-22]</sup> Psychoeducation involves instruction on the application of the training methods and techniques used in the treatment and rehabilitation of psychiatric diseases for patients and their families. In this training, practical instruction is given on a variety of subjects, such as sickness period, difficulties experienced during the disease

process, drug use, and adaptation and coping methods to help the patients maintain a productive life, keep them out of the hospital and deal with any problems that may arise. Research has shown that families who have received psychoeducation prior to a patient's discharge from hospital have more confidence, welcome the patient more warmly, and are able to provide social support for the patient and facilitate their adaptation, with the results being reduced frequency and duration of hospitalization of the patient.<sup>[6,14,17-20]</sup> In light of the above stated information, this study was conducted with the caregivers of patients with psychological disorders (e.g. psychosis, bipolar disorder), who had received or have been receiving treatment in a psychiatric clinic of a university hospital, in order to determine the caregivers' psychological stress and their psychosocial adjustment to the sickness during the process of giving care, and to investigate the effects of the psychoeducation program prepared for this aim on the stress and psychosocial adaptation of the caregivers.

## **Materials and Method**

### **Sampling**

To determine the study sample, first, the admission records from a psychiatric clinic of a university hospital were examined, and the contact information of the patients who had been diagnosed with chronic mental disorders (80 psychoses and 25 bipolar) and treated between June 2015 and April 2016 was obtained. The patients were phoned one by one, and their caregivers were informed about the psychoeducation program to be carried out within the scope of this study. A total of 40 caregivers (20 of whose patients had bipolar and 20, psychosis) voluntarily agreed to participate in the care-giving study. However, in the first psychoeducation sessions, a total of 30 caregivers - 12 of whose patients were diagnosed with bipolar impairment, 18 with psychosis- ended up participating in the study. Eventually, 20 caregivers (9 caregivers whose patients were bipolar and 11 caregivers whose patients had psychosis) formed the experimental group by participating in all the sessions and completing the pretests and posttests conducted during the study. A total of 20 caregivers who had volunteered to participate in the survey but indicated that they could not regularly participate in the psychoeducation groups on a continuous basis formed the control group of the study (9 caregivers whose patients were bipolar and 11 caregivers whose patients had psychosis).

### **Process**

Before conducting the research, the required written permission was first obtained from the Non-Interventional Ethics Committee of a university hospital (13.08.2015/161), the Public Hospitals Association Secretary to which the hospital belongs, and the Hospital Administration. After securing the necessary permissions, the service records for cases of chronic mental disorders (psychosis, bipolar) in the psychiatric clinic where the patients whose care and treatment were carried out

were examined to form the experimental and control groups, as described above. For four weeks in May of 2016, a total of eight psychoeducation sessions - half a day each week and two sessions each day- were administered to the caregivers in the experimental group. Psychoeducation sessions were conducted separately for each caregiver group. The caregivers of the psychotic patients were trained in the afternoons on Mondays, while those of the bipolar disorder patients were trained in the afternoons on Tuesdays each week.

The content of the psychoeducation program was prepared by the researchers, who are currently continuing their masters and doctorate programs in this field under the guidance of a faculty member who is a specialist in the field of Psychological Health and Psychological Diseases Nursing. In preparing the program, the related national and international literature was examined. Two separate presentations for the disorders (bipolar, psychosis) were prepared for each session. The following shows the general content of each session of the psychoeducation program:

1. Session: The questionnaires were completed after getting acquainted with the caregivers and conducting a preliminary evaluation. Experiences related to the difficulties caused by giving care to those diagnosed with a chronic mental disorder (bipolar, psychosis) were shared, and the caregivers were provided information from the literature related to these experiences. A description of psychoeducation was given and the purposes of the psychoeducation sessions were discussed.

2. Session: Emotions and experiences were shared in the course of the training given on chronic mental disorders (bipolar, psychosis). Information on chronic psychological disorders (bipolar, psychosis) and their symptoms and causes were given.

3. Session: Emotions and experiences were shared in the course of the training given to the caregivers about therapy, care and remission in the patients with chronic mental disorders (bipolar, psychosis). The participants were informed about drug therapy on chronic mental disorders (bipolar, psychosis), psychosocial therapies, initial symptoms, crisis periods, relapses and the ways to prevent relapses.

4. Session: Emotions and experiences were shared in the course of the training given to the caregivers about drug use, side effects of the drugs and the management of drug use in the patients with chronic mental disorders (bipolar, psychosis). Adaptation problems in treatment of chronic psychological disorders (bipolar, psychosis) and how to cope with them were voiced.

5. Session: Emotions and experiences were shared in the course of the training given to the caregivers about the effects of chronic mental disorders (bipolar, psychosis) on individuals and the families. Experiences on the difficulties faced by the patient and the caregiver when the diagnosis of a chronic mental disorder (bipolar, psychosis) was first made and during the treatment period and their feelings about the situation were all shared.

6. Session: The caregivers were informed about the factors that lead to stress and anger, as well as their causes and effects, in caring for patients with chronic mental disorders (bipolar, psychosis).

7. Session: The emotions and experiences associated with the necessary skills needed to cope with the stress and anger that accompany dealing with the development of chronic psychological disorders (bipolar, psychosis) were shared.

8. Session: The caregivers performed an assessment of the psychoeducation, and the questionnaires were completed again. The sessions of the psychoeducation program were conducted by the nurses working in the clinic, who also assumed the role of researcher under the guidance of a specialist teaching member in the field of Psychological Health and Psychological Diseases Nursing. To prevent any disruption to the nurses' clinical practice and to the continuity of the psychoeducation sessions, the nurses conducted the sessions using their pre-shift and post-shift rests. The nurses conducted the sessions in a didactic manner according to the contents of the presentation. During the training sessions, the caregivers were allowed to ask questions, share suggestions for resolving any experienced difficulties and interact with group members to discuss topics.

## **Measuring Instruments**

An introductory information form and two-scale forms were administered to the caregivers in the experimental and control groups for the purpose of gathering data before and after the program.

1. Introductory Information Form: This form consists of 16 open- and closed-ended questions that were prepared by the researcher on the basis of information drawn from an investigation of the related literature to determine the sociodemographic characteristics of the caregivers.

2. Caregiver Burden Scale: This scale, developed by Zarit, Reever and Bach-Peterson in 1980, is used to assess the stress experienced by caregivers who provide care for the elderly or for individuals who need care. The questionnaire can either be filled out by the caregivers themselves or by the researcher, in which case the researcher asks the questions to the caregiver. The scale is composed of 22 items, which serve to specify the effect of caregiving on an individual's life. It is a 4-point Likert-type scale, with the possible responses to the items being "never, rarely, sometimes, frequently, and nearly always".<sup>[24]</sup> The internal consistency coefficient of the scale was between 0.87 and 0.94, and the test-retest reliability was 0.71. The Turkish validity and reliability of the scale were determined by İnci and Erdem.<sup>[25]</sup> In the present study, the reliability of the scale was 0.86 for the experimental group and 0.92 for the control group. The minimum and maximum points possible on the scale are 0 and 88, respectively. The items of the scale are generally oriented towards social and emotional areas, with higher scores being an indication of a more severe experience of the burden.<sup>[24]</sup>

3. Psychosocial Adjustment to Illness Scale - Self Report (PAIS-SR): This is a multiple domain scale, which was designed by Derogatis and Lopez in 1983 to assess the quality of a patient's psychosocial adjustment to a current medical illness.<sup>[26,27]</sup> PAIS-SR also assesses the mutual interaction that an individual has with other individuals, outside of the institutions, constituting his/her sociocultural environment. The scale is comprised of 46 items, with the questions on the scale measuring psychosocial adjustment to illness in terms of 7 primary domains of adjustment: These 7 domains form the subscales of the scale and include Health Care Orientation (HCO), Vocational Environment (VE), Domestic Environment (DE), Sexual Relationships (SR), Extended Family Relationships (EFR), Social Environment (SE), and Psychological Distress (PD).<sup>[26]</sup>

For each question there are 4 responses related to changing levels of adjustment that the respondent can choose from. The respondent chooses the answer that best defines his/her own experiences. The items on the scale are transformed into numerical values that range between 0 and 3. Major negative changes from the onset of the disease are scored 3 points, while no change or positive changes are scored 0 points. The minimum and maximum scores possible on the PAIS-SR are 0 and 138, respectively.<sup>[24]</sup> Low scores on the scale indicate good psychosocial adjustment to the illness, whereas high

scores indicate poor adjustment. Scores below 35 are assessed as "good"; those between 35 and 51 as "fair" and those over 51 as "poor" psychological adjustment. The Turkish validity and reliability study for PAIS-SR was performed by Adaylar (1995) in Turkey.<sup>[26]</sup> In the same study, Adaylar (1995) reported that the alpha value for the whole PAIS-SR in individuals with chronic diseases was 0.92; while for the subscales (HCO, VE, DE, SR, EFR SE PD), the alpha values were 0.87, 0.83, 0.78, 0.96, 0.89, 0.92, and 0.79 respectively. For the experimental group in this study, the total scale reliability coefficient was 0.91 and 0.63, 0.51, 0.86, 0.94, 0.44, 0.92 and 0.84 for the subscales (HCO, VE, DE, SR, EFR SE PD), respectively. For the control group, the total scale reliability coefficient was 0.98 and 0.68, 0.56, 0.84, 0.94, 0.72, 0.88 and 0.89 for the same subscales, respectively.

### Data Analysis

SPSS 22.0 was used for the statistical assessments of the findings. Shapiro-Wilk analysis was performed to evaluate the normal distribution of the data. Independent samples t-t-test and paired sample t-test were used for descriptive statistics and for data showing normal distribution, while Mann-Whitney-U and Wilcoxon Test were used to analyze data without normal distribution. The results were evaluated within a 95% confidence interval, and the significance level was set at p<0.05

**Table 1. Distribution of sociodemographic characteristics for the caregivers in the experimental and control groups**

Descriptive features	Experimental		Control	
	n	%	n	%
Age	X=53.60±10.63		X=44.00±14.87	
Gender				
Female	12	60.0	13	65.0
Male	8	40.0	7	35.0
Education level				
Non-literate	1	5.0	–	–
Literate-Primary graduate	8	40.0	7	35.0
Secondary graduate	5	25.0	7	35.0
Tertiary level	4	20.0	6	30.0
Other	2	10.0	–	–
Relationships				
Mother	8	40.0	5	25.0
Father	2	10.0	4	20.0
Sister	4	20.0	3	15.0
Spouse	2	10.0	4	20.0
Daughter/Son	3	15.0	4	20.0
Aunt	1	5.0	–	–
Employment				
Employed	9	45.0	9	45.0
Unemployed	11	55.0	11	55.0
Total	20	100.0	20	100.0

## Results

Females constituted 60.0% of the caregivers in the experimental group, and the average age of the experimental group participants was  $53.60 \pm 10.63$ , with 50% of the group composed of the patients' parents. A total of 40.0% of the caregivers in the experimental group were literate and/or primary school graduates, and 55% were unemployed (Table 1). The patients of the caregivers had been under the diagnosis of a mental disorder for an average of  $13.84 \pm 11.88$  years, had been receiving treatment for an average of  $4.89 \pm 6.36$  years and had been hospitalized an average of  $3.85 \pm 2.37$  times. The average number of hospitalizations in the institution providing services for those in the experimental group patients is  $1.60 \pm 0.82$  (Table 2).

Females constituted 65.0% of the caregivers in the control group, and the average age of the control group participants was  $44.00 \pm 14.87$ , with 45% of the group composed of the patients' parents. A total of 35.0% of the caregivers in the control group were literate and/or primary school graduates, and like the experimental group, 55% were unemployed (Table 1). The patients of the caregivers in the control group had been

under the diagnosis of a mental disorder for an average of  $6.76 \pm 8.10$  years, had been receiving treatment for an average of  $2.58 \pm 3.89$  years and had been hospitalized an average of  $3.05 \pm 2.68$  times. The average number of hospitalizations in the institution providing services for the control group patients is  $1.55 \pm 0.82$ . Lastly, 40% of the caregivers in the experimental group and 35% of those in the control group reported that an individual, apart from the patient, in the family had a psychiatric diagnosis (Table 2).

In examining the relationship between the duration of diagnosis of the mental disorder of the patient and the number of times the patient had been admitted to hospital, it was seen that as the duration of the diagnosis increases, the duration of the therapy and the hospitalization rate also increase ( $p < 0.05$ ).

The comparison of the average scores on the CBS, which was applied before and after the training sessions for the purpose of assessing the stress experienced by the caregivers in both the experimental and the control groups due to giving care to those with psychological health problems, is shown in Table 3 and Table 4. According to the statistical analysis, there was no difference between the average scores

**Table 2. Distribution of patient characteristics for the patients of the caregivers in the experimental and control groups**

Characteristics of the patient	Experimental		Control	
	n	%	n	%
<b>Duration of diagnosis</b>				
Less than 1 year	3	15.0	4	20.0
1–5 years	3	15.0	8	20.0
6–10 years	4	20.0	4	40.0
11 years or more	10	50.0	4	20.0
	$X=13.84 \pm 11.88$		$X=6.76 \pm 8.10$	
<b>Treatment duration</b>				
Less than 1 year	8	40.0	11	55.0
1–5 years	7	35.0	5	25.0
6 years or more	5	25.0	4	20.0
	$X=4.89 \pm 6.36$		$X=2.58 \pm 3.89$	
<b>Number of times treated in hospital</b>				
1 time	2	10.0	6	30.0
2–3 times	9	35.0	9	45.0
4–5 times	5	25.0	3	15.0
6 times and over	4	20.0	2	10.0
	$X=3.85 \pm 2.37$		$X=3.05 \pm 2.68$	
<b>Hospitalization in this institution</b>				
1 time	12	60.0	12	60.0
2–5 times	4	20.0	5	25.0
6 times and over	4	20.0	3	15.0
	$X=1.60 \pm 0.82$		$X=1.55 \pm 0.76$	
<b>Another psychiatric diagnosis in the family</b>				
Yes	8	40.0	7	35.0
No	12	60.0	13	65.0
Total	20	100.0	20	100.0

**Table 3. Comparison of average scores on Caregiver Burden Scale (CBS) and Psychosocial Adjustment to Illness Scale Self-Report (PAIS-SR) of the caregivers in the experimental and control group before and after the training**

Scales	Groups	Before the training		After the training	
		Mean±Standard deviation		Mean±Standard deviation	
Caregiver Burden Scale	Experimental	43.50±15.25		42.20±15.58	
	Control	35.50±18.48		37.10±18.45	
		t=0.606 / p=0.552		t=0.944 / p=0.351	
Total PAIS-SR	Experimental	55.60±22.65		54.05±20.37	
	Control	44.60±21.73		51.25±22.82	
		t=1.567 / p=0.125		t=0.409 / p=0.685	
Health care orientation	Experimental	6.40±3.84		5.90±3.55	
	Control	7.25±3.90		7.85±3.83	
		t=-0.694 / p=0.492		t=-1.670 / p=0.103	
Vocational environment	Experimental	7.70±4.04		7.50±3.28	
	Control	5.55±3.45		7.15±3.38	
		t=1.808 / p=0.078		t=0.332 / p=0.741	
Domestic environment	Experimental	10.10±5.76		9.10±6.11	
	Control	7.20±5.41		7.80±5.67	
		t=1.641 / p=0.109		t=0.697 / p=0.490	
Sexual relationship	Experimental	8.25±6.43		8.05±6.10	
	Control	4.85±5.79		5.45±6.25	
		Z=-1.649 / p=0.099		Z=-1.331 / p=0.183	
Extended family relationships	Experimental	6.05±3.75		5.85±3.13	
	Control	4.05±3.30		5.15±3.36	
		Z=-1.783 / p=0.075		t=0.681 / p=0.500	
Social environment	Experimental	9.30±6.71		10.05±5.12	
	Control	8.85±5.12		10.00±4.72	
		t=0.238 / p=0.813		t=0.032 / p=0.975	
Psychological distress	Experimental	7.80±4.77		7.60±4.12	
	Control	6.85±5.76		7.85±5.38	
		Z=-0.801 / p=0.423		t=-0.165 / p=0.870	

obtained by both the experimental and the control groups on the scale before the training practice ( $p>0.05$ ). The same was true after the training practice; that is, there was no difference between the groups in terms of the average scale scores ( $p>0.05$ ) (Table 3). There was no significant difference between the pre-training ( $X_{BEFORE}=43.50\pm15.25$ ) and post-training ( $X_{AFTER}=42.20\pm15.58$ ) average scores obtained by the experimental group on the CBS. Likewise, the difference in the pre-training ( $X_{BEFORE}=35.50\pm18.48$ ) and post-training ( $X_{AFTER}=37.10\pm18.45$ ) average scores obtained by the control group on the CBS was insignificant (Table 4).

Comparison of the average sub-scale and total scale scores of the Psychosocial Adjustment to Illness Scale (PAIS-SR), which was applied to the experimental and control groups to determine the psychosocial adjustment of the caregivers to illness during the disease process, is shown in Table 3 and Table 4. According to the statistical analysis, there was no difference between the scores obtained by the experimental group and those obtained by the control group in respect to the sub-scale and total scale average scores on the PAIS-

SR ( $p>0.05$ ). Likewise, there was no difference in the average sub-scale and total scale scores after the training ( $p>0.05$ ) (Table 3). On Table 4, it can be seen that the PAIS-SR scores of the experiment group were poor before and after the training ( $X_{BEFORE}=55.60\pm22.65$  and  $X_{AFTER}=54.05\pm20.37$ ), while those of the control group were moderately good ( $44.60\pm21.73$ ) before the training but poor after the training ( $51.25\pm22.82$ ). There was no statistically significant difference between the pre-and post-training sub-scale and total scale score averages obtained by the experimental group on the PAIS-SR ( $p>0.05$ ) (Table 4). However, post-training sub-scale and total scale score averages obtained by the control group on the PAIS-SR psychosocial, except for those on the Health Care Orientation and Domestic Environment sub-scales, were statistically significantly higher (worse)  $p<0.05$ . In other words, adjustment to vocational environment, sexual relationships, extended family relationships and social environment of the caregivers in the control group grew worse over time, and the "psychological stress" they felt increased significantly in statistical terms (Table 4).

**Table 4. Comparison of average scores on Caregiver Burden Scale (CBS) and Psychosocial Adjustment to Illness Scale Self-Report (PAIS-SR) of the caregivers in the experimental and control group before and after the training**

<b>Scales</b>	<b>Experimental</b>		<b>Control</b>
	<b>Mean±Standard deviation</b>		<b>Mean±Standard deviation</b>
Caregiver Burden Scale			
Before	43.50±15.25		35.50±18.48
After	42.20±15.58		37.10±18.45
	t=0.606 / p=0.552		t=-1.118 / p=0.278
Total PAIS-SR			
Before	55.60±22.65		44.60±21.73
After	54.05±20.37		51.25±22.82
	t=0.570 / p=0.575		t=-4.891 / p=0.000**
Health care orientation			
Before	6.40±3.84		7.25±3.90
After	5.90±3.55		7.85±3.83
	Z=-0.811 / p=0.417		t=-1.580 / p=0.131
Vocational environment			
Before	7.70±4.04		5.55±3.46
After	7.50±3.28		7.15±3.38
	t=0.272 / p=0.788		t=-4.138 / p=0.001**
Domestic environment			
Before	10.10±5.76		7.20±5.41
After	9.10±6.11		7.80±5.67
	t=0.570 / p=0.575		Z=-1.700 / p=0.089
Sexual relationships			
Before	8.25±6.43		4.85±5.79
After	8.05±6.11		5.45±6.25
	Z=-0.390 / p=0.697		Z=-2.041 / p=0.041*
Extended family relationships			
Before	6.05±3.75		4.05±3.30
After	5.85±3.13		5.15±3.36
	t=1.223 / p=0.236		t=-2.567 / p=0.019*
Social environment			
Before	9.30±6.71		8.85±5.12
After	10.05±5.12		10.00±4.72
	Z=-0.569 / p=0.569		t=-2.632 / p=0.016*
Psychological distress			
Before	7.80±4.77		6.85±5.76
After	7.60±4.12		7.85±5.38
	t=0.174 / p=0.864		Z=-2.103 / p=0.035*

## Discussion

The demographic data from the study showed that the caregivers in the experimental and control groups were mostly female, parents of the patient, unemployed, and middle-aged or above. Dore and Romans<sup>[28]</sup> (2001) found in their study that 37% of the caregivers of individuals with bipolar disorder were their parents, 32% were their spouses, 24% were one of their relatives and that their average age was 46. In a study by Shamsaei et al.<sup>[29]</sup> (2015), 73.7% of the caregivers of individuals with schizophrenia were female and 50.2% were their parents. Sharif

et al.<sup>[30]</sup> (2012) reported that the majority of the caregivers in the experimental and control groups were the mothers of the patients and that their education level was low. Yazıcı et al.<sup>[12]</sup> (2016) found that 64.8% of the caregivers were female and 53.4% were the parents of the patients. In the literature, the caregivers are generally female, mostly from the family, especially the patient's mother, sister or wife, and unemployed. In looking at the data holistically, caregiving, even in different cultures, is a social role ascribed to women, and this is believed to account for the data presented just above.<sup>[2,4,5,7,9,10,12]</sup>

As the duration of the diagnosis of the psychological disorder of a patient increases, the duration of treatment and the hospitalization rates increase as well. Based on this data, the financial, emotional, psychological and physiological burden of caregivers can be predicted to increase. In a study conducted with relatives of patients with bipolar disorder in Australia, 76% of the caregivers stated that they had to reduce their working hours or leave their job to deal with the illness.<sup>[28]</sup> It has been reported in some studies that as the duration of disorder and the number of hospitalizations increase, the caregiver burden increases accordingly.<sup>[22,30-32]</sup> In a study conducted by Yazıcı et al.<sup>[12]</sup> (2016), the burden of the caregivers of patients with schizophrenia was shown to be related to the age and education level of the relatives of the patient as well as to the number of hospitalizations of the patient.

In the present study, the caregivers in the experimental and control group stated that other than the patients they cared for, there were other individuals within the family who were diagnosed with a mental disorder. Numerous studies report similar results and have also shown that the prevalence of depression in the caregivers who provide primary care for the patients with chronic psychological disorders is high.<sup>[7,8,14,22,30,32,33]</sup> Therefore, it is important that psychosocial support be provided, not only for the individuals with mental disorders, but also for their relatives. Sharif et al.<sup>[30]</sup> (2012) conducted a study with 35 patients who had schizophrenia and their caregivers, wherein after training, they observed an increase in their co-operation and an improvement in the scores related to anxiety and depression. The support and raised awareness provided by a structured, continuous psychoeducation program will serve to improve the perceptions caregivers have on the burden of care giving, well-being, marital relationships and relationships with other individuals,<sup>[8,13]</sup> and this will directly affect, in a positive manner, the quality of the care given to the patient.<sup>[4,10,14,15]</sup> Studies show that psychoeducation given to individuals in charge of the care of patients with chronic psychological disorders has a positive effect on caregiving.<sup>[9,14,16-22,30,34]</sup> It is reported in a study conducted by Reinares et al.<sup>[35]</sup> (2004) that psychoeducation intervention on caregivers of bipolar patients improved the caregiver's knowledge of the illness, reduced their distress or subjective burden and altered their beliefs about the link between the disruptions in their life and the patient's illness. Fallahi Khoshknab et al.<sup>[36]</sup> (2014), in their study conducted with 71 relatives of acute schizophrenic patients at a hospital in Iran, found that family burden scores of the caregivers decreased significantly after psychoeducation. In another study conducted in Iran (2012), the caregiver burden scores of the caregivers of 50 schizophrenic and 50 bipolar disorder patients were reported to decrease significantly after the training, and the effects of the training were maintained even three months after the training.<sup>[37]</sup> Doğan et al.<sup>[17]</sup> (2002), in a study they conducted in the home environment of families of schizophrenic patients, found that familial and social relationships of the caregivers were affected positively, their quality of life improved, the difficulties they ex-

perienced and psychological complaints decreased after the training. A study conducted by Özkan et al.<sup>[38]</sup> with caregivers of schizophrenic patients found that the psychoeducation and telepsychiatry follow-up given to the caregivers reduced emotional expression, depression and family burden. Tanrıverdi and Ekinci<sup>[39]</sup> (2012) conducted a study with the caregivers of 31 schizophrenic patients and reported that psychoeducation reduced the caregiving burden significantly and was an effective therapeutic strategy. In contrast, some studies have found there to be no significant relationship between caregivers' knowledge about the illness and care burden,<sup>[12,40]</sup> while in others, it has been shown that as the knowledge about the illness increases, the family burden increases, too.<sup>[41]</sup> In the present study, however, no difference was found between the average scores of the caregivers in the experimental and control groups before and after the training. According to this data, the psychoeducation applied to the experimental group does not significantly affect the stress felt by the caregivers. Nevertheless, Table 4 shows that the average scores of the caregivers in the experimental group decreased - though not to a statistically significant degree - whereas that of the control group increased. In the present study, the fact that the post-test evaluation was performed after only a short period of time (1 month later) from that of the initial assessment (pre-test) may have influenced the results; that is, a 1-month period may be insufficient for the feeling/perception resulting from the care burden to change. The results from the study by Yesufu-Udechuku et al.<sup>[11]</sup> (2015) support this idea. In their study, they conducted a meta-analysis of 21 research studies with 1589 caregivers, where it was reported that psychoeducation did not yield beneficial results for the caregivers immediately after the training; however, changes were reported in problem solving and psychological stress after the sixth month.

In the literature review performed for the present study, there was no study found that assessed the effect of psychoeducation on caregivers' psychosocial adjustment to illnesses. Studies have shown that desperation, stress and the difficulties felt by the caregivers during the care process diminished after receiving psychoeducation; their quality of life and social activities increased;<sup>[17,42]</sup> there was improvement in family functions, social support levels and cooperation pertaining to drug therapy<sup>[16]</sup> and in their knowledge about the illness and treatment, in their attitude to the patient and in their problem solving abilities.<sup>[43]</sup> Furthermore, a meta-analysis study found that psychoeducation had positive effects on patients as well as caregivers, and that it decreased the recurrence rate of the illness by 20%.<sup>[44]</sup> It was reported in another study that the period between relapses of schizophrenia lengthened, the patient stayed in hospital for a shorter period during the first relapse of the illness and the number of days the patient stayed in hospital over a 5-year period decreased.<sup>[45]</sup> Ran et al.<sup>[46]</sup> (2015) conducted a 14-year follow-up of the psychoeducation that they applied to the families of schizophrenic patients in the rural areas of China and found that the patients whose family was given psychoeducation and continued to

use drugs at the same time had a stronger impact on their ability to work compared to those who just used drugs and took no treatment. Table 4 shows that there is no statistically significant difference between the pre-test and post-test in terms of the experimental group's psychosocial adjustment to illness, whereas the scores of the control group gradually deteriorated / worsened. That the improvement in psychological adjustment of the experimental group was found to be statistically insignificant is thought to have resulted from the fact that the duration between the two measurements (pre-test/post-test) was too short. However, the lack of significant deterioration in the general psychological adjustment, vocational environment, sexual relationships, extended family relationships, social environment, and psychological distress subs-scales in the experimental group suggests that the psychoeducation applied prevented this deterioration. Oral and written feedback taken from the caregivers at the end of the psychoeducation show that the caregivers became acquainted with many of the issues related to the illness, including issues they had never come across before, as well as with therapy and rehabilitation of the illness. They stated that they were now familiar with the symptoms indicating recurrence of the illness. To emphasize the importance of the continuity of this education, the caregivers formally expressed their feelings and thoughts about the positive changes they experienced to the administration of the hospital, stressing that psychoeducation is a necessity. Similarly, Yildirim et al.<sup>[13]</sup> (2014) found that following the psychoeducation, the relatives of the patients were able to express their emotions and thoughts comfortably, without feeling guilt and shame, and they were more sensitive to the problems and able to cope with the difficulties they faced in patient care and with different situations in the family more effectively. Results from a study by Kumar and Mohanty<sup>[47]</sup> (2015) conducted with 40 schizophrenic patients and their spouses showed that psychoeducation administered to families had a significant impact on feelings being expressed in a more positive manner, rather than with a critical and hostile attitude, within the family, and on decreasing the feeling of stigmatization attached to the care burden and psychiatric illnesses. It can be concluded from these findings, that in order to improve the care services offered to individuals with chronic psychological disorders, it is important that these psychoeducation programs, which are generally carried out for short periods of time, be stretched over a longer period within the scope of research, that the continuity of these programs be maintained and that family schools be provided for caregivers.

## Conclusion

As much as it appears that the psychoeducation applied to the caregivers of individuals with chronic psychological disorders did not seem to have changed the distress they felt nor to have affected their psychological adaptation to the illness, the fact that the deterioration observed in the control group's perceived discomfort as well as in their psychological adaptation

was not seen in the experimental group suggests that psychoeducation prevents this decline. Moreover, it is believed that the evaluation of the post-test evaluation results within only a short period of time after the pre-test (1 month) and failure to assess these results over extended intervals of time through repetitive measurements may have factored into the results. These stated factors can be considered weaknesses of the study. In light of these weaknesses, it is recommended that longitudinal repetitive evaluations be carried out in similar studies and that educational effectiveness be assessed using different scales. On the other hand, the inclusion of an experimental and control group is one of the strong features of the study. Although the caregivers in the treatment group showed positive improvement in their scores related to the stress they felt and their psychological adjustment to illness after the education, compared to their scores before it, this difference was not statistically significant. However, a decline was observed in the control group in comparison to the experimental group, who showed mild improvements in care burden and psychological adjustment to illness.

In Turkey, it is generally known that planned and structured, continuing psychoeducation programs for families of patients with chronic psychological disorders are not given, and the studies on this subject have been conducted with smaller groups and only in limited number. Specialist nurses working in the field of psychiatry, such as those in psychiatry clinics and community psychological health, have important roles and responsibilities in psychoeducation and counseling for patients with chronic psychological disorders, both in the legal and the professional sense. Therefore, nurses, under their roles and responsibilities, should investigate the development of psychoeducation practices that contribute to the reduction in the care burden of caregivers, supporting them psychosocially and correcting any flaws. In addition, they should take responsibility for the routine implementation of these programs. To ensure the continuity of these programs, the working conditions and schedules of the nurses who are knowledgeable about the programs and capable of carrying out this training must be arranged accordingly. Lastly, such psychoeducation programs for patients and caregivers could be standardized and generalized through legal regulations, as this would also contribute to improvement in the quality of psychological health services.

## Limitations of the Study

This study included several limitations, the first being that the number of patients who met the criteria for participation in the study (date range, disease diagnosis (bipolar, psychosis etc.)) from among those who had been treated or were being treated clinically at the time of the study was limited, and only those who volunteered to participate in the study were put in the control group to secure the continuity of the sessions. Secondly, there was a high number of caregivers who agreed to participate in the study but who were not able to regularly

participate in the training program due to no one else being available to care for the patients under their charge during the educational process, and thus these individuals could not be included in the study. This contributed to the results not being able to be generalized. Thirdly, because the training sessions were only didactic, there was only a limited amount of time to complete the research process and there were difficulties in bringing the caregivers together, the data on care giving burden and psychosocial adjustment was only able to be taken before the training and once again at the end of the program, just over one month later, and therefore there were no repeated evaluations conducted at certain intervals. The main strength of the study was that this research is among the very limited number of studies with an experiment/control design to have been carried out in psychiatric units.

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