

THE EFFECTS OF BRIEF PSYCHOEDUCATION PROGRAM ON THE  
PERCEIVED EXPRESSED EMOTION LEVELS OF THE OUTPATIENT  
SCHIZOPHRENIC PATIENTS AND EXPRESSED EMOTION LEVELS  
AND BURN OUT LEVELS OF THEIR KEY RELATIVES

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Approval of the Graduate School of Social Sciences

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**I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.**

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## **ABSTRACT**

### **THE EFFECT OF BRIEF PSYCHOEDUCATION PROGRAM ON THE PERCEIVED EXPRESSED EMOTION OF THE OUTPATIENT SCHIZOPHRENIC PATIENTS AND EXPRESSED EMOTION AND BURN OUT LEVELS OF THEIR KEY RELATIVES**

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The main aim of this study is to investigate the effects of a brief psycho-educational intervention for the key relatives of schizophrenic patients, on perceived expressed emotion of patients, and the expressed emotion and burn out of their key relatives. Seventy five schizophrenic patients and their key relatives were included in the study. They were assigned into three groups randomly. The key relatives in the first experimental group were given a one-day

psychoeducational workshop and written material package about schizophrenia were provided for them. In the second experimental group, key relatives were only given the written material package about schizophrenia which was the same as that of the Experimental Group I. The third group was the control group received no intervention or any material.

All of the participants including patients and key relatives were given the instruments of the study as pre-test. Two weeks after pre-test, the relatives in Experimental Group I and Experimental Group II were invited to the hospital without their patients. The first group participated in the psychoeducational workshop and they were given written material package and the second group was only given the written material package. Pre test was given to Control Group without any intervention. Two months later, the post-tests were applied to all of the key relatives and their patients.

Overall the results indicated that a one day intensive psycho-educational workshop enriched with audiovisual components, written material package about schizophrenia and an interactive discussion part has a positive impact on the key relatives' burnout levels, expressed emotion levels and knowledge about schizophrenia. Furthermore, although no direct intervention was conducted with the patients, the results showed that patients' perceived expressed emotion levels were reduced as well. The results also showed that simply providing written material about schizophrenia does not have an effect on burnout levels, expressed emotion levels and knowledge of relatives and the perceived expressed emotion of their patients.

Keywords: Schizophrenia, Family, Expressed Emotion, Perceived Expressed Emotion, Burn out, Psychoeducation

## ÖZ

### BİR GÜNLÜK PSİKOEĞİTİM PROGRAMININ ŞİZOFRENİ HASTALARININ ALGILADIKLARI DUYGU DIŞAVURUMU İLE YAKINLARININ DUYGU DIŞA VURUMU VE TÜKENMİŞLİK DÜZEYLERİ ÜZERİNDEKİ ETKİLERİ

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Bu çalışmanın amacı şizofreni hastalarının yakınlarına uygulanan bir günlük bir psikoeğitim programının, hastaya yakınlarının duygu dışa vurumu ve tükenmişlikleri ile hastalarının algıladıkları duygu dışavurumunun üzerindeki etkilerini incelemektir. Bu amaçla, çalışmaya 75 şizofreni hastası ile onların yakınları dahil edilmiştir. Randomize olarak hasta yakınları üç gruba ayrılmıştır. Birinci gruptaki hasta yakınlarına bir günlük bir psiko eğitim ile şizofreni hakkında yazılı bilgi verilmiştir. İkinci gruptaki hasta yakınlarına ise sadece ilk

gruptaki hasta yakınlarına verilen şizofreni hakkında yazılı bilgi verilmiştir. Son olarak, kontrol grubuna her hangi bir uygulama gerçekleştirilmemiştir.

Her üç gruptaki hasta yakınları ve hastalara ön test verildikten iki hafta sonra, birinci ve ikinci gruptaki hasta yakınları hastaneye davet edilmiştir. İlk gruba psiko eğitim ile yazılı materyal verilmiş olup, ikinci gruba ise sadece yazılı materyal verilmiştir. Uygulamalardan iki ay sonrasında da hasta ve hasta yakınlarına son test uygulanmıştır.

Çalışmanın sonuçları, bir günlük, yoğunlaştırılmış ve görsel malzemeler ve tartışma bölümleri ile zenginleştirilmiş psiko eğitim programının hasta yakınlarının duygu dışı vurumu, tükenmişlikleri ile şizofreni hakkındaki bilgi düzeyleri üzerinde olumlu bir etkiye sahip olduğuna işaret etmektedir. Ayrıca, hastalara doğrudan bir müdahalede bulunulmamasına rağmen, hastaların da algıladıkları duygu dışı vurumunda anlamlı bir azalma gözlenmiştir. Ayrıca, şizofreni hakkında bilgi içeren yazılı malzemelerin hasta yakınlarına dağıtılmasının, hasta yakınlarının tükenmişlik, duygu dışı vurum düzeyleri ile hastaların algıladıkları duygu dışı vurumu üzerinde etkisinin olmadığı saptanmıştır.

Anahtar Kelimeler: Şizofreni, Aile, Duygu Dışa Vurumu, Algılanan Duygu Dışa Vurumu, Tükenmişlik, Psikoeğitim

To My Parents

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## TABLE OF CONTENTS

PLAGIARISM.....	iii
ABSTRACT.....	iv
ÖZ.....	vi
DEDICATION.....	viii
ACKNOWLEDGMENTS.....	ix
TABLE OF CONTENTS.....	xi
LIST OF TABLES.....	xiv
LIST OF FIGURES.....	xvi
CHAPTERS	
1. INTRODUCTION.....	1
1.1 Schizophrenia.....	2
1.1.1 Definition of Schizophrenia.....	2
1.1.2 Diagnostic Criteria and Subtypes of Schizophrenia.....	3
1.1.3 Epidemiology of Schizophrenia.....	4
1.1.4 Etiology of Schizophrenia.....	6
1.1.5 Prognosis of Schizophrenia and Factors Related to Relapse.....	7
1.2 Expressed Emotion in Families.....	8
1.2.1 Definition and Dimensions of Expressed Emotion.....	8
1.2.2 Measurement of Expressed Emotion.....	11
1.2.3 Characteristics of Families with High and Low Expressed Emotion.....	17
1.2.4 The relationship between Expressed Emotion and Schizophrenic Relapse.....	18
1.2.5 Perceived Expressed Emotion.....	20
1.2.6 Interventions for Changing Expressed Emotion.....	22
1.3 Burn Out of Families.....	28

1.3.1 Definition and Dimensions of Burnout .....	28
1.3.2 Burden of Families of Schizophrenic Patients .....	29
1.3.3 Interventions for Changing Burn Out .....	30
1.4 Aims of the Study .....	32
1.5. The Hypothesis of the Study .....	33
1.6 The Importance of the Study .....	35
2. METHOD .....	37
2.1 Subjects .....	37
2.2 Instruments .....	40
2.2.1 The Instruments Administered to the Key Relatives .....	40
2.2.1.1 Sociodemographic Information Form .....	40
2.2.1.2 Expressed Emotion Scale .....	41
2.2.1.3 Maslach Burn out Inventory .....	41
2.2.1.4 Knowledge about Schizophrenia Questionnaire .....	42
2.2.2 The Instruments Administered to the Patients .....	44
2.2.2.1 Sociodemographic Information Form .....	44
2.2.1.2 Perceived Expressed Emotion Scale .....	44
2.3 Procedure .....	45
2.3.1 Psychoeducation .....	46
2.3.2 Documentary Films .....	49
2.4 Statistical Analyses .....	49
3. RESULTS .....	51
3.1 Descriptive Analysis .....	51
3.2 Means, Standard Deviations, and Ranges of the variables Used in the Study .....	52
3.3 Correlations among the Variables of the Study .....	52
3.4 Expressed Emotion .....	58
3.4.1 Criticism/ Hostility .....	58
3.4.2 Emotional Over involvement .....	60
3.5 Burn out .....	63
3.5.1 Emotional Exhaustion .....	63

3.5.2 Personal Accomplishment.....	66
3.6 Knowledge about Schizophrenia.....	68
3.7 Perceived Expressed Emotion .....	71
3.7.1 Perceived Criticism/ Hostility .....	71
3.7.2 Perceived Emotional Over-involvement .....	74
4. DISCUSSION .....	78
4.1 Main Aims and Major Findings.....	78
4.2 Evaluation of the Hypothesis.....	79
4.3 Limitations of the Study.....	84
4.4 Strengths of the Study .....	85
4.5 Clinical Implications of the Study .....	86
4.6 Directions for Future Research .....	87
5. REFERENCES .....	89
6. APPENDICES.....	103
A. INFORMED CONSENT .....	103
B. SOCIODEMOGRAPHIC INFORMATION FORM FOR THE KEY RELATIVES .....	104
C. EXPRESSED EMOTION SCALE .....	109
D. MASLACH BURN OUT INVENTORY.....	111
E. KNOWLEDGE ABOUT SCHIZOPHRENIA QUESTIONNAIRE .....	113
F. SOCIODEMOGRAPHIC INFORMATION FORM FOR THE PATIENTS .....	116
G. PERCEIVED EXPRESSED EMOTION SCALE .....	117
H. SATISFACTION FORM FOR PSYCHOEDUCATION .....	119
I. SATISFACTION FORM FOR WRITTEN MATERIAL.....	121

## LIST OF TABLES

### TABLES

Table 1	Sociodemographic characteristics of the patients .....	38
Table 2	Sociodemographic characteristics of the key relatives.....	39
Table 3	Table to summarize the procedure of the study .....	46
Table 4	Means, standard deviations, and ranges of the variables used in the study.....	53
Table 5	Pearson correlation coefficients among the variables .....	55
Table 6	Analysis of variance of the groups on the criticism/hostility.....	58
Table 7	Means of criticism/hostility of three groups measured at time one, and the differences between them.....	59
Table 8	Analysis of co-variance of the groups on the criticism .....	60
Table 9	Means of criticism/hostility of three groups measured at time two and the differences between them .....	60
Table 10	Analysis of variance of the groups on the emotional over involvement .....	61
Table 11	Repeated analysis of variance of groups on the emotional over Involvement .....	62
Table 12	Means of emotional over involvement of three groups measured at time one and time two and the differences between them.....	62
Table 13	Analysis of variance of the groups on the emotional exhaustion .....	64
Table 14	Repeated analysis of variance of groups on the emotional exhaustion .....	65
Table 15	Means of emotional exhaustion of three groups measured at time one and time two and the differences between .....	65

Table 16	Analysis of variance of the groups on the personal accomplishment .....	66
Table 17	Means of criticism/hostility of three groups measured at time one, and the differences between them.....	67
Table 18	Analysis of co-variance of the groups on the personal accomplishment.....	68
Table 19	Means of personal accomplishment of three groups measured at time two and the differences between them .....	68
Table 20	Analysis of variance of the groups .....	69
	on the knowledge about schizophrenia .....	69
Table 21	Repeated analysis of variance of groups on the knowledge about schizophrenia .....	70
Table 22	Means of knowledge about schizophrenia of three groups measured at time one and time two.....	71
Table 23	Analysis of variance of the groups on the perceived criticism.....	72
Table 24	Repeated Analysis of Variance of groups on the perceived criticism/hostility .....	73
Table 25	Means of perceived criticism of three groups measured at time one and time two.....	74
Table 26	Analysis of variance of the groups on the perceived emotional over involvement .....	75
Table 27	Repeated analysis of variance of groups on the perceived emotional over involvement.....	76
Table 28	Means of perceived expressed emotion of three groups measured at time one and time two.....	76

## LIST OF FIGURES

### FIGURES

Figure 1	Time by groups interaction on emotional over involvement .....	63
Figure 2	Time by groups interaction on emotional exhaustion .....	66
Figure 3	Time by groups interaction on knowledge about schizophrenia .....	71
Figure 4	Time by groups interaction on perceived criticism/hostility .....	74
Figure 5	Time by groups interaction on perceived emotional over involvement .....	77

## **CHAPTER 1**

### **INTRODUCTION**

The main aim of this study is to investigate the effects of a brief psycho-educational intervention for the key relatives of schizophrenic patients, on perceived expressed emotion of patients, and the expressed emotion and burn out of their key relatives.

In this chapter, firstly, the definition of schizophrenia, diagnostic criteria and subtypes of schizophrenia, epidemiology and etiology of schizophrenia will be presented. Then, the definition and dimensions of expressed emotion (EE); characteristics of families with high and low expressed emotion; the relationship between schizophrenic relapse and expressed emotion will be presented under the title of prognosis of schizophrenia, since EE has been shown to be related to prognosis in a large number of empirical studies. Subsequently, the measurement of expressed emotion in the key relatives and perceived expressed emotion of the patients will be covered. Then, interventions for changing expressed emotion will be discussed.

Another issue under the title of family and schizophrenia which is the burn out of families will also be presented. The definition, measurement and interventions for changing burn out of families of schizophrenic patients will be discussed. Finally, the hypothesis of the study will be presented.

## 1.1 Schizophrenia

### 1.1.1 Definition of Schizophrenia

Schizophrenia is a mental disorder that has been recognized and described throughout the history. It was initially defined by Emil Krapelin (1856-1926) who suggested the first comprehensive definition of schizophrenia by using the term “dementia praecox” (Stone, 2006). Dementia praecox which was the meaning of dementia of the young was pointing to the early onset of the illness with poor prognosis. He also emphasized the family history, temperament, premorbid personality to distinguish between dementia praecox and manic depressive disorder (Krapelin, 1919, as cited in McKee, 1996).

Eugen Bleuler (1857-1939) proposed that dementia praecox did not always appear in adolescence and did not invariably end in deterioration. He suggested the term “schizophrenia” emphasizing the “splitting of the mind” and focused on symptoms rather than the prognosis to complement Krapelin’s description. He described a group of symptoms including affective blunting, autism, avolition, impaired attention and ambivalence as “fundamental” to the disorder. His fundamental symptoms were widely accepted as 4A’s (associations, affective flattening, autism, ambivalence) of Bleuler and today they are still used in clinical practice (Bleuler, 1911, as cited in McKee, 1996).

A German psychiatrist Kurt Schneider (1887- 1967) defined a group of delusions and hallucinations and considered them to have “first rank” significance in the disorder but not basic to the disorder (Schneider, 1979, as cited in McKee, 1996) The first rank symptoms are thought insertion, thought withdrawal, thought broadcasting, voices communicating with or about the person and delusions of being externally controlled.

### 1.1.2 Diagnostic Criteria and Subtypes of Schizophrenia

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR), the disturbance should last for six months. In the first month, at least two of the following; delusions, hallucinations, disorganized speech, disorganized or catatonic behaviours should be observed in addition to the negative symptoms (APA, 2007).

International Statistical Classification of Diseases, Injuries and Causes of Death (ICD 10) defines a more heterogeneous group of patients relative to DSM IV. According to ICD 10, the diagnosis of schizophrenia does not require 6 months. Only 1 month of active symptoms is required and thus patients should have a slightly better prognosis than in DSM IV (World Health Organization, 1992).

DSM IV and ICD 10 identify five subtypes of schizophrenia which are paranoid schizophrenia, disorganized schizophrenia, catatonic schizophrenia, undifferentiated schizophrenia and residual schizophrenia. Paranoid schizophrenia is defined by the features of delusions or auditory hallucinations, but without prominent disorganized speech or behavior, catatonic behavior or flat or inappropriate affect. Disorganized subtype of schizophrenia is defined by the features of prominent disorganized speech or behavior and flat or inappropriate affect without catatonic behavior. Catatonic subtype of schizophrenia is characterized by immobility that may include catalepsy or stupor, or apparently purposeless excessive motor activity, extreme negativism or mutism, posturing, stereotyped movements, mannerisms or grimacing, and echolalia and echopraxia. The defining features of undifferentiated schizophrenia are active phase symptoms without the prominent symptoms of the paranoid disorganized or catatonic types. Lastly, in residual type there are no prominent active-phase symptoms, nor gross disorganization or catatonia but there may be negative symptoms or attenuated active- phase symptoms.

There are two replicable psychopathological domains of symptoms, the positive and negative symptom domains in schizophrenia. Many systems have been proposed to define positive and negative symptoms. In these systems, generally, the positive symptoms are acknowledged as hallucinations, delusions, conceptual disorganization, grandiosity, persecution and hostility; where as the negative symptoms are acknowledged as blunted affect, emotional withdrawal, poverty of speech and difficulty in abstract thinking (Andreasen, 1995, as cited in Lindenmayer& Khan, 2006).

#### 1.1.3.1 Epidemiology of Schizophrenia

The proportion of the population at a point in time that has the disorder is defined as the point prevalence which was found to be 5 per 1000 population for schizophrenia (Eaton, 1985). The lifetime prevalence of schizophrenia is about 1 % and is equal in men and women. Although, a large body of data suggests that although men and women have an equivalent lifetime risk; the age at onset varies with sex. There is strong evidence pointing out that the onset of schizophrenia is on average 3.5 to 6 years earlier in men than in women (Kay & Tasman, 2006). The peak age of onset is usually between 15-25 years for men and between 25-35 years for women. Males have an early large peak of onset in their late teens and early twenties, followed by a gradual decline. Females have several peaks of onset, in their twenties, in late middle age and over the age of 65 (Leung& Chue, 2000). Robins and Reiger (1991) showed that there is no significant difference in the prevalence of schizophrenia between black and white persons when corrected for age, sex, socioeconomic status and marital status.

A study of marriage and fertility rates of individuals with schizophrenia compared with the general population showed that, on average, by the age of 45 years, three times as many of those with schizophrenia as of the general population

are still unmarried (40% of men and 30% of women with schizophrenia are still single by age 45). A comparison study of Turkish and American samples conducted by Çetingök, Chu, and Park (1990) demonstrated that for both samples, male patients were more commonly single than females. Within the Turkish sample, separated, divorced or widowed Turkish male schizophrenics were found to have the most intense stupor and disoriented behaviour.

Epidemiological studies revealed a higher incidence and prevalence of schizophrenia in groups with lower socioeconomic status. In the past half century, studies have found that the actual incidence of schizophrenia does not vary with social class, based on the first admission rates, adoption studies and a series of studies examining the social class of the fathers of people with schizophrenia. When these findings did not validate the original theory, it became clear that lower socioeconomic status was more a result than a cause of schizophrenia. This led to the acceptance of the downward drift hypothesis, which stated that because of the nature of schizophrenic symptoms, people who develop schizophrenia are unable to attain employment and positions in society that would allow them to achieve a higher social status. Thus, these patients drift down the socioeconomic ladder, and because of the illness itself they may become dependent on society for their well-being (Kaplan & Sadock, 2003). The patients who abuse cannabis have earlier first hospitalization and decreased access to psychiatry services (Eaton, 2006). In addition to the epidemiology of schizophrenia, its' etiology has also been a critical research area. Details on the etiology of schizophrenia will be presented in the next section.

The epidemiologic studies in Turkey are limited because of the costs and methodological problems of these studies. However, in an epidemiologic study in Sivas the lifespan prevalence of schizophrenia was reported as 0.5% (Dogan, 1995).

#### 1.1.4 Etiology of Schizophrenia

Today, the most acceptable etiologic model is accepted as “diathesis-stress model” which emphasizes the interaction between social factors and genetic, prenatal and premorbid vulnerability factors. According to this model, a person can develop schizophrenia as result of an environmental stress that interacts with an underlying predisposition in the individual (Barrowclough, 1992). The relationship between biological vulnerability and environmental stress is acknowledged as the threshold model. A life event stressor such as promotion, divorce or loss challenges adjustment. As long as the stress stays below the threshold of vulnerability, the individual responds to the stressor in a homeostatic way and remains within the limits of normality. However, when the stress exceeds the threshold, the person is likely to develop a psychopathological episode (Barrowclough, 1992).

Schizophrenia is acknowledged to have multiple etiological factors. Although genetic liability is the most important risk factor, neurodevelopment, neurological, prenatal, and social factors are also being investigated as possible causes that may play a role in the etiology of schizophrenia (Eaton, 2006).

One of the causative mechanisms that have been studied in the etiology of schizophrenia is family history which was found as an important factor for the development of schizophrenia (Sullivan, 2006). The incidence of schizophrenia is about 2 % in third degree relatives, as first cousins of an individual with schizophrenia; 2-6 % in second degree relatives as nieces/ nephews; and 6 – 17 % in first degree relatives, such as parents, siblings or children (Lewis & Lieberman, 2000). It has been also reported that genetic relationship is a better predictor of the development of schizophrenia than having an adopted parent with schizophrenia (Kendler, 2000). Twin studies supported the relationship between genes and schizophrenia. They showed a 50 % concordance rate in

monozygotic twins, whether they are raised together or apart. Among dizygotic twins, the concordance rate is about 15% (Lewis & Lieberman, 2000).

There are several biochemicals that play a role in the etiology of schizophrenia such as dopamine, serotonin, glutamate and GABA (Javitt, 2006).

#### 1.1.5 Prognosis of Schizophrenia and Factors Related to Relapse

The regular use of medication and having low contact (less than 35 hours per week with high EE family members) are found to be factors related to a better course in schizophrenia. Pharmacological therapies play a role in the prognosis of schizophrenia as an essential component of a comprehensive schizophrenia treatment. Cessation of antipsychotic therapy for one month or more was considered to indicate that patient was not on continuous medication. Patients who did not take medication continuously showed relapse rates of 48% at the one year follow up; 61% at the second year's follow up 82% at the end of the five years' time (Kissling, 2001).

The amount of face-to-face contact the patient has with his or her relative is also an important indicator in the prognosis of schizophrenia together with high expressed emotion in home environment. Over a typical week, more than 35 hours is classified as high contact, and less than 35 hours as low contact (Barrowclough & Tarrier, 1992). In the study of Leff and Vaughn (1985), depressed patients whose exposure was more than 35 hours with high EE relatives had higher relapse rates as compared to low EE relatives (89% v. 57%). In Australia, the findings of a research which was designed to investigate the relapse rates in schizophrenia showed that high contact with high EE relatives (more than 35 hours per week) was more likely to increase relapse (68%) as compared to only 12 % in low expressed emotion relatives (Vaughan, Doyle, McConaghi, Blaszcynski, Fox, Tarrier, 1992).

Expressed emotion in the home environment, which is significant in the prognosis of schizophrenia, is another complicated factor, which will be defined and discussed in detail in the next section.

## 1.2 Expressed Emotion in Families

Theories, implicating family as playing a causal role in the development of schizophrenia have lacked empirical support. However, there is a substantial body of literature suggesting that attitudes and behaviours of the family members towards an ill member are associated with the course of schizophrenia rather than the cause of schizophrenia. The most acceptable and important concept that was found to be in relationship with relapse and prognosis of schizophrenia is acknowledged as expressed emotion.

### 1.2.1 Definition and Dimensions of Expressed Emotion

Research on the effects of the family environment on the course of schizophrenia started with the work on expressed emotion (EE) by the medical sociologist George Brown and his colleagues at the MRC Social Psychiatry Unit in London. They became interested in researching the fate of patients who were at that time being discharged from the large psychiatric institutions. They found that the relapse and the rehospitalization rates of patients with a diagnosis of schizophrenia increased if they returned to live with their families as compared to those who returned to live alone or in some other residential setting (Barrowclough&Tarrrier, 1992). According to their point of view, the home environment could be responsible for this effect and subsequently the studies on expressed emotion in the home environment gained popularity.

The concept of “expressed emotion” was developed to explain why some hospitalized patients with schizophrenia who had a good response to pharmacological treatment relapsed soon after returning to their homes and it

was defined as a measure of the emotional response of a relative towards a person with a diagnosed health problem or the emotional climate of the home (Lobban, 2006).

The concept of EE has five dimensions which are criticism, hostility emotional over-involvement, warmth and positive remarks. Only the first three were found to be related to schizophrenic relapse. The most popular assessment of EE is conducted with an interview, The Camberwell Family Interview, which will be described in the subsequent section. Here, it is important to note that the assessment done with interviews evaluates both the content of the interview and the tone of voice in determining the EE components.

Criticism is the component which involves making negative comments about the behavior or characteristic of the patient; declaration of dissatisfaction, disapproval or resentment; rejection of particular behaviors of the patient. It also includes giving negative feedback to the patient that makes the patient anxious (Barrowclough, 1992).

Hostility is the general rejection of the patient or the relative's expression of global criticism towards the patient. It consists of comments which negatively evaluate the patient as a person, rather than criticisms of specific things they do or fail to do; they are directed against the person rather than the patient's behavior. Hostility can be thought of as a more severe and pervasive negative attitude about the patient than just dissatisfactions with specific aspects of behavior (Barrowclough, 1992).

The dimension of emotional over- involvement (EOI) is probably the most complex one because it involves examples of a number of different behaviors of the relative. These behaviors can be categorized as exaggerated emotional response, self sacrifice and over- indulgent behavior, emotional display during the interview, extreme preoccupation with the patient's illness, emotional distress and extreme attempts at controlling the patient. Exaggerated emotional response can be described as the relative being excessively anxious about the

patient, especially about their welfare and therefore, the relative's reactions are closely linked to the patient. Self sacrifice and over-indulgent behaviors include examples of behavior where the relative has sacrificed their own needs to look after their patient. Extreme over protectiveness is another characteristic of emotional over- involvement. Emotional distress is the exaggerated emotional responses for the illness of the patient such as crying all the time and getting extremely upset when thinking about the illness. Extreme preoccupation with the patient's illness is having over identification with the patient, being unable to talk about other subjects, or describing illness events in excessive and minute detail (Barrowclough, 1992).

Warmth includes statements of sympathy; concern and empathy for the patient; concern for the well being of the patient as a person; and indications that the respondent enjoys the patient's company and doing things together (Barrowclough, 1992).

Using a warm tone of voice is an indicator for positive attitude when talking about the patient. Regarding positive remarks, statements specifying the patient's abilities, skills and positive attributes would be relevant during the interview that points warmth and positive remarks (Barrowclough, 1992; Kavanagh, 1992).

It is on the basis of the ratings on the scales presented in the next section that the classification of family members as high or low in EE is made. For example, if a relative makes an above-threshold number of critical remarks (six or more in the case of schizophrenia), makes any remark that is rated as hostile, or shows evidence of marked over involvement (a rating of 3 or more on a 0–5 scale), he or she is classified as high in EE (Hooley and Parker, 2006). Having even one key relative who is high EE in the home delineates the family as high EE.

## 1.2.2 Measurement of Expressed Emotion

### 1.2.2.1 Camberwell Family Interview (CFI)

The gold standard measure of EE is a semi structured interview known as the CFI (Leff & Vaughn, 1985). It is conducted with the patient's key relative (parents or spouse) without the patient being present, usually when the patient is admitted to the hospital. Parents are interviewed separately and the interview is always recorded for later coding. An audiotape is used to record the interview. When it is administered well, the CFI is more like a conversation with the relative than a formal interview. Questions address the onset of the patient's disorder and the symptoms that were apparent to the relative in the months prior to the patient's hospitalization or exacerbation of illness. Also discussed are the level of tension in the household, irritability, participation of the patient in routine household tasks, and the daily routines of the patient and various family members. The typical length of the interview is between 1 and 2 hours. The CFI is used to make ratings on five scales. These are Criticism, Hostility, Emotional Over involvement, Warmth, and Positive Remarks as described in the previous section. Although ratings on five scales are made, practically speaking, the most important EE scales related to relapse are Criticism, Hostility, and Emotional Over involvement.

It is clear from the empirical literature that EE, measured with the CFI, is a construct with considerable concurrent and predictive validity. Relatives who are classified as high in EE behave in more negative ways when they interact with the patient than do low-EE relatives. CFI-rated EE is also highly predictive of symptom relapse in patients with a wide variety of disorders and the predictive validity of the construct has been demonstrated cross-culturally (Bhugra, McKenzie, 2003).

However, several problems limit the practical utility of the CFI. First, EE can only be assessed by raters who have received between 40 and 80 hours of formal training. Second, training in the rating of EE is both expensive and difficult to obtain. Finally, each CFI takes 1–2 hr to administer and another 2–3 hours to code. These factors combine to make the assessment of EE by CFI both costly and cumbersome.

#### 1.2.2.2 The Five Minute Speech Sample (FMSS)

The FMSS (Magana, Goldstein, Karno, Miklowitz, & Jenkins, J., 1986) requires the family members to talk about their thoughts and feelings about the patient for 5 uninterrupted minutes. The speech is recorded and later coded for the overall level of EE, criticism, and EOI. There is no hostility rating on the FMSS. Warmth is not assessed either, although the FMSS does provide a frequency count of the number of positive comments relatives make about the patient. This is used in the FMSS EOI rating.

The FMSS requires less time to administer (5 minutes) and score (20 minutes) compared with the CFI. One or more critical comments, negative comments about the relationship, or a critical statement at the start of the interview are all indicative of high criticism on FMSS, whereas FMSS EOI is characterized by extreme praising or loving comments about the patient, crying, or excessive emotional involvement and self-sacrifice.

### 1.2.2.3 Level of Expressed Emotion Scale (LEE)

The LEE (Cole & Kazarian, 1988) is a 60-item; self report measure that assesses the emotional environment in the patient's most important relationships. Items in the LEE Scale are based on the EE construct, and the four subscales are Intrusiveness, Emotional Response, Attitude toward Illness, and Tolerance and Expectations. Items are rated in a true–false format, and the scale generates a score for the level of overall EE as well as a score for each of the four response patterns.

Two versions of the LEE Scale are available. The Patient Version asks patients to evaluate their relationship with their closest relative (i.e., the relative with whom they live). The Relative Version requires the close relative to evaluate his or her relationship with the patient. Because the LEE Scale is a self-report measure, it is easier to administer and requires less time to score

### 1.2.2.4 Family Attitude Scale (FAS)

The FAS (Kavanagh, O'Halloran, Manicavasagar, Clark, Piatkowska, 1997) is a 30-item self-report measure of EE. It is similar to the LEE in that either relatives or patients may complete it. Examples of items include "I wish he were not here," "He appreciates what I do for him," "I lose my temper with him," "He ignores my advice," and "I feel very close to him." In a subsequent study, Fujita, Shimodera, Izumoto, Tanaka, Kii, Mino, Inoue (2002) administered the FAS to the families of schizophrenic patients in Japan. Echoing the earlier findings of Kavanagh (1997), FAS scores were significantly associated with criticism ( $r=.47$ ), hostility ( $r=.37$ ), and warmth ( $r=.39$ ) as assessed with the CFI. Finally, Pourmand (2005) reported that FAS scores were higher in high-EE

families than they were in low-EE families. With a cut off score of 55 on the FAS, 65.0% (22 of 34) of high-EE cases and 75.0% (15 of 20) of low-EE cases were correctly identified. Correlations between the FAS and CFI-assessed critical comments were .29 for fathers and .27 for mothers. Although these correlations did not attain statistical significance, there was a significant association between FAS scores and hostility ( $r = .34$  for fathers;  $r = .38$  for mothers). Mothers' FAS scores were also significantly correlated with EOI ( $r = .31$ ), although this was not true for fathers ( $r = .06$ ). Overall, the early findings with the FAS are encouraging. The measure has significant overlap with the CFI. In a small sample of patients with anorexia nervosa and their siblings, Moulds, Touyz, Schotte, Beumont, Griffiths, Russell, Charles (2000) also found that siblings' scores on the FAS were correlated .53 with patients' scores on the 38-item LEE. It is important to note that data on the predictive validity of the FAS are now becoming available. In a sample of 62 patients diagnosed with psychosis and comorbid substance abuse, Kavanagh and Pourmand (2006) reported that the baseline family FAS scores were higher in patients who subsequently relapsed. However, the strongest predictor of patient relapse was EE, assessed with the CFI.

#### 1.2.2.5 Perceived Criticism (PC)

Of all the alternative measures of EE, the simplest one is the PC measure. Recognizing that the most important element of EE was criticism, Hooley and Teasdale (1989) simply asked patients to rate how critical they thought their relative were of them using a 10-point Likert-type scale. In addition, they asked patients how critical they thought they were of their relative using the same scale. A subsequent addition expanded the questions to include ratings of upset ("When [your relative] criticizes you, how upset do you get" or "When you

criticize [your relative] how upset does he or she get?”). In all cases, these items can also be completed by the relatives themselves.

It is interesting to note that patients' ratings of PC may provide a more valid assessment of the EE level of the person being rated than the self-report ratings obtained from the relative directly (Thompson, Goldstein, Lebell, Mintz, Marder, & Mintz, 1995).

#### 1.2.2.6 Munster Family Interview (MFI)

Munster Family Interview is administered to the whole family, including the patient. The emotional family atmosphere is assessed during this interview. In the interview, natural relative- patient interaction is observed in the home environment. Interview is rated immediately after the completion on five dimensions. Four of these dimensions are known as EE dimensions criticism, hostility, emotional over involvement and warmth. The fifth one, resignation, was added to the interview by Buchkremer, Monking, Lewandowski, and Wittgen. This dimension emphasizes indifferent and designative behaviors of the relatives towards the patient (cited in Stricker, Monking, & Buchkremer, 1997).

#### 1.2.2.7 Expressed Emotion Scale (EES)

Expressed Emotion Scale, used in the present study, was developed by Berksun in 1992, to be used for assessing EE characteristics of family members. In the item production process, 12 psychiatrists and psychologists who were working in the Psychiatry Clinic in the Faculty of Medicine in Ankara University produced 200 items. These 200 items were evaluated by three psychiatrists and

a psychologist; and 58 items were retained. These items were administered to 50 caregivers of schizophrenic patients and the items were presented with a response format of “No”, “Rarely”, “Sometimes” and “Most of the time”. After reliability analysis of the instrument, the items having item- total correlations below .20 were eliminated. Finally, the format of the response scale was changed to “Yes” or “No”. Finally, a 41 item scale was produced, in true/false format. The factor analysis revealed two factors (Criticism/ Hostility; factor 2: emotional over involvement. The internal reliability of the scale was .89 (Berksun, 1992). EES, which was developed and used in Turkish samples, is given to the key relative in order to measure his/her expressed emotion level.

Karanci & Inandilar (2002), using the EES with a Turkish sample of relatives of schizophrenic patients found that the Cronbach's Alpha coefficient of the Hostility/ Criticism factor was .86, explaining 17% of the variance and the Cronbach's Alpha coefficient of the Emotional Over involvement was .84, explaining 13% of the variance. In that study, it was confirmed that EES is a practical and reliable method to assess the dimensions of expressed emotion in Turkish samples.

#### 1.2.2.8 Perceived Expressed Emotion Scale (PEES)

EES was transformed to reflect the perceptions of expressed emotion by patients (Alkar, 2006). In that study, EES was changed to assess the perception of the patients about their relatives. Alkar (2006) measured the perceived expressed emotion level of haemodialysis patients. High scores indicated higher levels of perceived expressed emotion. PEES had two factors which are criticism/hostility and emotional over-involvement. The Cronbach's Alpha coefficients of the two factors were .93 and .79 respectively. The internal consistency for the total PEES was found to be .81.

In another study conducted by Bastug (2008), the scale was applied to schizophrenic patients and the Cronbach's Alpha coefficients of the two factors were found to be .83 and .81 respectively. The Cronbach's Alpha reliability of the whole scale was .88. This study showed that PEE is a good predictor of symptomatic worsening in schizophrenic patients (Bastug, 2008).

### 1.2.3 Characteristics and Behaviours of Families with High and Low Expressed Emotion

Families with high and low expressed emotion were found to differ from each other in characteristics, behaviors and patterns of family interactions. The high EE families have more internal locus of control for their life and they tend to have an active role in managing difficulties and life problems whereas low EE families are more fatalistic and accepting (Hooley, 1998). The high EE families lack tolerance (Doherity, Cutting, Bers, 1998), they rarely agree with their patient, show lower levels of accepting behavior and use critical comments not only towards their patients during their interaction with their patient but also towards themselves (Hooley, 1985; Miklowitz, Goldstein, Neuchterlein, 1995). The high EE families report that they feel more burdened and experience more stress than the low EE families (Barrowclough & Parle 1997; Scazufca & Kuipers, 1996; Tarrier, Barrowclough, Ward, Donaldson, Burns, 2002).

The low EE families behave more flexibly and less forcefully than high EE families. They also tend to behave less protectively and show respect for the privacy of the patient (Kavanagh, 1992).

In Goldstein's research, there was no empirical support for any link between expressed emotion and presence of current or past DSM IV psychopathology among relatives of bipolar patients (Goldstein, Miklowitz, Richards, 2002). Therefore, the personality rather than psychopathology of relatives is the most important aspect (Leff & Vaughn, 1985).

The high EE families are also more intrusive and have higher expectations than do low EE families. The low EE families believe more that the patient's illness is real and s/he is not responsible for the symptoms of the illness (Kazarian, Malla; Cole, Baker, 1990).

Karanci & Inandilar (2002), in their study with Turkish care givers of schizophrenic patients examined the predictors of criticism/hostility and emotional over involvement. Their results showed that the perception of coping with the patients' symptoms was negatively related to Criticism/ hostility whereas higher perception of coping with symptom behaviours contributed positively to Emotional over involvement.

#### 1.2.4 The Relationship between Expressed Emotion and Schizophrenic Relapse

Studies show that there is a strong relationship between schizophrenic relapse and high expressed emotion in the home environment (Barrelet, Ferrero, Szigethy, Giddey, & Pellizer, 1990; Hooley, 2007; King & Dixon, 1999; Kopelowicz, Lopez; Zarate, O'Brein, Gordon, Chang, & Gonzales- Smith, 2006; Linszen, Dingemans, Nugter, Van der Does, Scholte, & Lenior, 1997; Marom, Munitz, Jones, Weizman, & Hermesh, 2002; Vaughan, Doyle, McConaghi, Blaszcynski, Fox, & Tarrier, 1992; Yang, Phillips, Licht, & Hooley, 2004).

A meta-analysis included 27 articles, in which EE as assessed by the CFI were examined. The results showed that expressed emotion in the home environment was a reliable predictor for relapse (Butzlaff & Hooley, 1998).

It cannot be acknowledged that the relationship between EE and relapse is a causal relationship. There are factors that are correlated with EE which are the personality of the caregivers (Hooley & Hiller, 2000), coping strategies of the parents (Hall & Dochorety, 2000) and the sensitivity of relatives towards their schizophrenic patients (Shimodera, Inoue, Tanaka, & Mino, 1996).

Stress is one of the causal factors for relapse; criticizing the patient and showing hostile remarks towards the patient may give too much stress for a vulnerable patient and can give rise to relapse (Hooley & Campbell, 2002). Patients feel more stressed by their interactions with high EE parents, siblings, spouses than patients with low EE relatives (Cutting, Aakre, Docherty, 2006). Patients feel more anxious that increases the stress level of the patient if they had high EE family member who is criticizing him/her (Kuipers, Bebbington, Dunn, Fowler, Freeman, Watson, Hardy, Gratey, 2006).

In order to test the idea that interactions with high-EE relatives are more stressful for patients than are interactions with low-EE relatives, Tarrier, Vaughn, Ladder, Leff (1979) conducted a study in which the skin conductance and blood pressure in remitted schizophrenic patients were measured in their own homes. Psychophysiological data were collected for 15 minutes while patients were in the company of the experimenter and then for 15 minutes after high- or low- EE relatives entered the room. No differences were found between the patients prior to the entry of the relatives. However, after the entry of high-EE relatives, patients showed an increase in diastolic blood pressure; in contrast, after the entry of their low-EE relatives, patients showed a decrease in electrodermal arousal (measured as reduced spontaneous fluctuations in skin conductance). Therefore, it is suggested that high EE is related to relapse through its association of causing stress in patients.

Parallel results have also been obtained when this kind of experimental design is used with acutely ill patients (Sturgeon, Turpin, Kuipers, Berkowitz, Leff, 1981; Tarrier, Barrowclough, Porceddu, Watts, 1988). Although patients in the acute phase of the illness generally have higher levels of electrodermal arousal than do patients in remission, the entry of low-EE relatives seems to facilitate habituation to the novel testing situation in both ill and remitted patients. In

contrast, the presence of a high-EE relative is associated with continued arousal.

Another interesting study showed these differences in electrodermal reactivity to high- and low-EE relatives in a single case design involving a 29-year-old male patient who was suffering from schizophrenia (Tarrier & Barrowclough, 1984). Skin conductance measurements were taken when the patient was in the presence of a neutral experimenter, alone with his low-EE father, and alone with his high-EE mother. The patient showed a similar number of spontaneous skin conductance when he was alone with his high-EE mother.

It was proposed that the Emotional over involvement dimension of expressed emotion was not as toxic as Hostility/ criticism dimension in developing countries as different from Western countries (Kamal, 1995; Okasha, El-Akabawi, Snyder, 1994). Emotional over involvement is accepted in Western countries as pathological because it crosses the boundaries of individuals by acting against the individual and averting the patient's egocentric position whereas in other cultures such an attitude may be the norm and play a role in the protection of the patient (Bhugra, McKenzie, 2003).

The relationship between EE and relapse is still indefinite but it has been accepted that EE is a form of psychosocial stress that has biological results for vulnerable patients but the mechanism of the link is still unknown.

#### 1.2.5 Perceived Expressed Emotion

The family environment can have a strong influence on the prognosis of schizophrenia. However, the patients' view and their perception of expressed emotion characteristics are as important as the expressed emotion reported by the relative. Although, the studies about the association between expressed

emotion and relapse started in 1950's, the perceived expressed emotion has not been handled since 1990's.

Perceived criticism is known as people's perception of criticism from another individual that have been found to predict relapse, treatment outcome and prognosis (Renshaw, Chambles , Steketee, 2003).

The first research of perceived criticism was conducted with depressed women (Hooley& Taesdale, 1989). Their results demonstrated that expressed emotion, marital distress and patients' perceived criticism have significant relationship with the depressed women's 9 month relapse rates. Depressed patients who reported that their spouses are highly critical towards them were significantly more likely to relapse than were patients who perceived less criticism. Hooley & Teasdale (1989) suggested that an objective measurement of the relatives' criticism was less important than the patients' perception of criticism, since perceived criticism is likely to be the significant cause of any effects of expressed emotion on the patient.

Another study about the importance of patients' expectation and perception of family environment in schizophrenia was carried out by Warner & Atkinson (1988). The results of their study showed that the schizophrenic patients who perceived their parents positively tended to experience a milder prognosis of schizophrenia if they were in high contact with them, and a more severe prognosis if they were not. The reverse was true for patients who perceived their parents negatively. It was proposed that patients' perceptions of parental attitudes could influence the course of schizophrenia by giving ongoing stress.

Scott, Fagin,& Winter (1993) examined schizophrenic patients' perception of their family members' attitudes by using the Family Interpersonal Perception Test. Patients who expected their relatives to view them negatively were significantly more likely to relapse than those who expected their relatives to

view them positively. The perception of the patient was found to be the best predictor of the relapse. A significant correlation between the parents' view of the patient and patients' expectation was found among the patients who relapsed.

The amount of face-to-face contact of schizophrenic patients with his/her family was combined with the patients' perceived expressed emotion in the study conducted by Thompson (1995). The results demonstrated that relapse can significantly be predicted from this combination. The results of a recent study which was in line with the findings of Thompson (1995) demonstrated that patients' perception of criticism was significantly related to the EE assessments in those relatives classified as high EE due to critical remarks obtained by FMSS (Bachmann, Bottmer, Jacop, Schröder, 2005).

In the study by Bastug (2008), the results indicated that perceptions of expressed emotion rather than the EE ratings were associated with high risk of relapse, positive symptoms, general psychopathology, and social relations.

As is understood from the literature, perceived expressed emotion is a new concept in the field of schizophrenia and family studies. Little is known about the perceived expressed emotion and an accepted consensus has not been reached yet. It is difficult to draw meaningful conclusions from these results but it seems to be effectual in the prognosis of schizophrenia.

#### 1.2.6 Interventions for Changing Expressed Emotion

This section aims the theoretical and empirical basis of the family interventions that have been developed to reduce the expressed emotion levels of the caregivers of the schizophrenic patients, which has been shown to be the best predictor of outcome in schizophrenia (Kavanagh, 1992; Bebbington & Kuipers, 1994; Kuipers & Bebbington, 2005). The meta analysis conducted by Butzley

and Hooley (1998) also confirmed this relationship between expressed emotion and relapse in schizophrenia.

Falloon and his colleagues (1981) designed a study to compare family therapy and individual therapy in reducing expressed emotion levels of the families and changing their critical and negative attitudes towards patients. The family therapy sessions were conducted at home and psychoeducation for schizophrenia; problem solving skills and communication skills were given to the families and their patients. The results of this study demonstrated that the patients who did not participate in family therapy sessions had much higher relapse rates than the patients who participated in the program in the 9 and 24 months follow-up periods. The families improved at problem solving skills and coping strategies after the intervention program and reported that their subjective burden was reduced (cited in Barrowclough & Tarrier, 1984; Barrowclough & Tarrier, 1992).

Leff (1982) designed a study to reduce the relatives' expressed emotion levels and the face to face contact of them with their patients to less than 35 hours per week. The families were separated into two groups, which were the control group and the experimental group. In the experimental group the high EE families were given education sessions together with their patients by a psychiatrist and a psychologist at home and in the control group the patients received only routine out-patient care. The patients who participated in the experimental group showed a significantly lower relapse rate as compared to patients in the control group at 9 the months' follow-up period. 50% of the relatives' EE levels decreased to low from high in the experimental group, but only 17% of the relatives changed from high EE to low EE in the control group; the face to face contact reduced significantly in the experimental group. The relapse rates in the experimental group and the control group were 50 % and 9% respectively and the difference between the two groups was again

significant at the two year follow up (cited in Barrowclough & Tarrier, 1992; cited in Kavanagh, 1992).

In 1983, a research to investigate the effects of psycho education on the families of schizophrenic patients by measuring the impact of two educational sessions on 18 families who all were high expressed emotion parents was conducted (McKill, Falloon, Boyd, & Wood Sivero, 1983). The reasoning given for high expressed emotion families was based on previous studies showing that high EE family environment predict early relapse while a major source of high EE appeared to be lack of knowledge about the illness (Brown, 1972; Vaughn & Leff, 1976). Assessment of knowledge about schizophrenia was obtained before, immediately after the intervention and at three months' follow up period. There were two groups in the research as the intervention group, who received psychoeducation and the second group as the control group, who were assigned to an individually focused treatment modality. Both parents and patients in the educational intervention group showed significant gains in knowledge from the baseline to immediately after intervention. These gains were maintained at the follow up measurements. The individual treatment comparison group did not show such gains in knowledge.

In another educational intervention with families, Smith and colleagues (1987) presented weekly 60-90 minute sessions. Forty family members (mostly parents) from twenty-three families were randomly assigned to either an active group or a postal intervention condition (i.e., received the same information via mail). The reason for having a postal group instead of a pure control group was to assess the effects of information per se versus its active delivery by professionals. A pre-test, post-test design with a six month follow up was used to assess the effect of this educational program. The instruments used in this study were mostly developed from the limited research of others although two of the scales (measuring beliefs about schizophrenia and worry and fear) were devised by the authors and consisted of a few Likert type scaled items. An 18

item multiple choice questionnaire was used to assess knowledge about schizophrenia. The aim of this study was to examine the effects of education, by itself, for specific (knowledge acquisition and retention) and nonspecific (attitudinal change, stress reduction) effects. The results showed a significant increase in acquisition and retention of knowledge for both conditions, although the relatives in the active condition acquired and retained significantly more information than those in the postal group. Relatives in both conditions reported significant reductions in stress symptoms, burden, worry and fear. This study demonstrated some likely benefits achieved with a well planned educational intervention. There was not only a specific increase in knowledge level but also non specific effects were observed (attitudes, feelings of stress) (Smith, 1987).

Cozolino and his colleagues (1988), assessed the effect of a single, three hour, educational sessions on a number of informational, attitudinal and behavioural variables of 29 caregivers of schizophrenia. Caregivers were assigned quasi-randomly into two groups which were educational group and control group balanced on expressed emotion ratings. The caregivers were assessed with 14 different measures, four measures were specifically devised for this study and were made up of one or two questions rated on a Likert type scale. To assess knowledge of schizophrenia, an informational survey, consisting of both open-ended and multiple-choice questions, was utilized. Results from this study showed a significant effect of increasing relative's sense of support from the treatment team. When the educational and control group were stratified for high and low expressed emotion, the impacts of the education were more evident for the high EE families in the educational group. High EE families, when compared to the high EE controls, demonstrated significantly greater gains in their sense of understanding of the illness, which was also evident at the two months follow-up period (Cozoline, 1988).

The family psychoeducation, for a short period, was also found to be effective in a study which included 46 families (Yamaguchi, 2006). 15 of the families were high expressed emotion families and 31 of them were low expressed emotion families according to The Five Minute Speech Sample. The results showed that family psychoeducation during hospitalization even for a short period is effective for all families whether high or low EE.

In another study carried by Mino and colleagues (2007) 54 patients and their families were included. The study used a 9 months follow up after discharge. Patients' families were separated into two groups; the psychoeducation group and the control group. Relapse rate was 30% in the psychoeducation group and 58.1% in the control group, with a significant difference.

In a recent study (Carra, Montomoli, Clerici, Cazzullo, 2007) that was conducted to evaluate the impact of multiple group family therapy treatment for schizophrenia, the families were allocated into three groups. Fifty family members in the first group were provided with an informative program, twenty six family members received an additional support program and twenty five of them received usual treatment. The results of the study revealed that the expressed emotion levels of families receiving the additional support program than just the informative one reduced significantly more frequently. The expressed emotion levels of families were found to be predictive of patients' admission. The families in the first group who were presented informative program with support showed significantly more frequent downward changes from baseline high EE than in the information group only. There was no change in EE levels of families in the usual treatment group.

McFarlane and colleagues (McFarlane, Lukens, Link, Dushay, Deakins, Newmark, 1995) found that after participating in a comprehensive family

education program, relatives' mental health and functional knowledge about schizophrenia increased, as did communications between the family members and the patient, high EE was reduced, and unreasonable expectations were lowered. Also patients' personal functioning and social adjustment were improved. In terms of clinical significance, it has repeatedly been demonstrated that psycho educational programs aimed at lowering the EE in family environments can also reduce the rate of patient relapse (Dixon, 1995).

Maxon and Ronan 2008 conducted an educational study for changing EE and knowledge about schizophrenia levels of the caregivers. The study aimed to improve the knowledge and to reduce the expressed emotion levels of the caregivers by providing them a brief educational intervention. In the study, the participants were randomly assigned to either the experimental group (n: 23) or waitlist group (n: 16). The dependent variables of the study were knowledge about schizophrenia, measured by Knowledge about Schizophrenia Interview and expressed emotion measured by Level of Expressed Emotion scale. The experimental group was provided a) information on diagnosis, symptomology, etiology, medication and prognosis of schizophrenia, b) management and strategies that could help both the patient and relatives, including ten to fifteen minutes of relaxation training at the end of the sessions, intended to give participants a tool to take away and use in their own environments when needed. This study demonstrated that family members' knowledge improved significantly after the intervention, and that this improvement was maintained at the three months follow-up, whereas no change was reflected as a function of the two-week control period. The EE also significantly decreased over the course of the study with the effects of intervention having the most beneficial and direct effect on family members' negative attitudes toward the disorder.

### 1.3 Burn Out of Families

According to Solomon (1995) relatives have become the most important caregivers for adults with major psychiatric disorders because of recent deinstitutionalization policy in psychiatry. Research in this area has consistently indicated that the burden on families is considerable and that the family members' well-being and mental health is seriously impaired (Maurin & Boyd, 1990). Caring for a relative with a psychiatric disorder results in severe objective and subjective burden (Cuijpers & Stam 2000) which can cause burn out in family members.

#### 1.3.1 Definition and Dimensions of Burn Out

The term "burn out" was first used by Freudenberger in his article titled "personal burnout" in 1974. (as cited in Freudenberg, 1986). He spotted burnout as a problem affecting volunteers working in a health care agency. He observed that the volunteers' motivation and passion for the work decreased gradually and they experienced several mental and physical symptoms. These people claimed that they experienced feelings of being useless and incompetent despite the fact that they helped lots of people. In order to define their feelings they have used the term burn out.

Burn out was defined as a state of physical, emotional and mental exhaustion caused by long term involvement in emotionally demanding situations by Pines and Arenson in 1998 (as cited in Figley, 1998).

Burn out is accepted as a syndrome which has three domains; emotional exhaustion, depersonalization and reduced sense of personal accomplishment. Emotional exhaustion is the key concept of the burn out syndrome and points out to the depletion of the emotional resources. Depersonalization refers to the cynical and negative feelings and attitudes toward clients, and reduced sense of

personal accomplishment refers to the tendency to evaluate oneself and one's accomplishments negatively (Maslach, 1982; Maslach & Jackson, 1986).

These definitions were referring to the vocational burn out. Apart from work related burnout, there is a research area regarding parental burnout of people who are the caregivers of handicapped children such as schizophrenic patients, stroke patients, people with Alzheimer disease. They often provide a considerable support for their ill relatives and experience a significant level of burden due to close contact with them that results in burnout (Almberg, Grafström, Krichbaum & Winblad, 2000).

### 1.3.2 Burden of Families of Schizophrenic Patients

Burden can be described as the total of the practical difficulties and physiological pain that the caregiver experiences during the care giving process. Objective burden; refers to both controlling the hostile and unpredictable behaviours of the child and assisting the daily activities of the child because of his/her lack of these abilities. Subjective burden refers to the negative emotions namely stress, tension, anger, worry, sadness, feelings of shame and guilt (Schwartz & Gidron, 2002). Kasuya, Polgar- Bailey, & Takeuchi (2000) concluded that parental (caregiver) burnout is the final step in the progression of caregiver burden, where the experience is no longer healthy for both caregiver and the person receiving care.

Given the high proportion of family members providing care to a relative with schizophrenia and the high rates of burden they report, researchers have attempted to identify predictors of family burden. Predictors of care givers burden have been found to be related to sociodemographic and personality variables such as attributions and coping strategies (Karanci, 1995; Dyck, 1999; Ohaeri, 2001; Laidlaw, 2002; Lauber, 2003; Reine, 2002). The results of a recent study of Grandon, Jenaro, & Lemos (2000) demonstrated that clinical

characteristics, such as higher frequency of relapses, more positive symptoms and lower independence performance, together with self-control attributed to the patient, decrease in social interests and less affective support predicts burden.

In a Turkish study by Karancı (1995); the caregivers attributed schizophrenia mainly to psychosocial reasons such as stressful events (50%), family conflicts (40%) and patients' characteristics (28%). The most commonly reported difficulties were family conflicts and disruptions of family life (57%), subjective burden (48%) and financial costs due to the illness (27%). The number of difficulties reported by caregivers was found to be correlated with the duration of the patient's illness.

### 1.3.3 Interventions for Changing Burn Out

There is a substantial literature suggesting that family interventions are highly effective in improving illness outcomes and reducing relapse rates (Andersan, 1986; Faloon, 1982; Goldstein, 1978; Tarrier, Barrowclough, Vaughn, Bamrah, Porceddu, Watts, & Freeman, 1988; Xiang, Ran & Li, 1994). In addition to this, interventions aiming to reduce the burden of the caregivers of schizophrenic patients are also a research area. Some of the research studies showed a reduction of caregivers' burden after family interventions (Solomon, 1996; Lam, 1991; Kazarian, & Vanderheyden, 1992) whereas some other studies, like the one conducted by Caniva (1996), Mueser (2001), McDonell (2003) failed to replicate these results.

In a study by Canive, Sanz-Fuentenebro, Vazquez, Qualls, Fuentenebro, Perez, & Tuason (1996) in Spain, the burden of relatives was measured before and 6-weeks after a multiple-family psycho-educational intervention. The results showed that, although parents gained a significant level of knowledge of the illness, no significant differences were found on the other measures immediately

after the intervention or at 9-month follow-up. However, significant father mother differences were revealed, suggesting that psycho-educational interventions need to consider differences in gender and family roles.

Gutierrez- Maldonado, Caqueo- Urizar (2007), conducted a study with forty five care givers. A psycho-educational family intervention group and a control group were compared. The family program was held once a week for 5 months. In the control group the caregivers received standard intervention, comprising periodical meetings with the staff to monitor the effects of the medication. Burden was measured before and after the intervention. This study revealed that burden decreased significantly in the psychoeducational group; mean scores on the Zarit Caregiver Burden Scale fell from 85.06 pre-intervention to 52.44 post-intervention, while scores fell only slightly in the control group, from 87.65 to 87.22. Treatment was especially effective in mothers and caregivers with lower educational levels. This intervention program for reducing caregiver burden in developing Latin American countries was effective. Future investigations should focus on obtaining more precise estimates of the contributions of specific components of these programs to reducing burden.

The results of a meta analysis study (Cujipers, 1999) demonstrated that family interventions for relatives of psychiatric patients can have considerable effects on relatives' burden. The researchers concluded that the interventions with less than ten sessions have no important effects on relatives' burden but the difference between effective and less effective interventions could not be explained completely by the number of sessions. On the other hand, rather than the number of sessions, the duration of the total intervention appeared as an important predictor for the effectiveness of the application.

Stam and Cuijpers (2001), similar to the present study, assessed the burnout levels of psychiatric patients' care givers. 119 members of a family support group and for the control group 45 relatives, who had joined just one-session information meeting, participated. The family support group had significantly less

scores on two of the Maslach Burnout Inventory (MBI) subscales, emotional exhaustion, and lack of personal accomplishment as compared to the control group

Magliano, Fiorillo, Malangone, De Rosa, and Maj (2006), conducted a study to investigate the impact of a psychoeducation program on burn out. Seventy one families were allocated into two groups; the intervention group (n: 42) and the wait list group (n: 29). At baseline and six months later, validated tools were used to assess patients' clinical status, personal and social functioning, relatives' burden, social resources and perception of professional support. For both the intervention and control groups, family burden significantly improved. The results suggest that a psychoeducational family intervention may have a significant impact on functional outcomes of schizophrenia and burn out of families

#### 1.4 Aims of the Study

The relationship between expressed emotion (EE) and prognosis in schizophrenia is empirically shown to be universally true. Furthermore, the effect of psycho education in decreasing EE is also empirically supported (Dixon, Lehman (1995); McFarlane, Lukens, Link, Dushay, Deakins, Newmark, 1995; Carra, Montomoli, Clerici, Cazzullo,2007; Mino, 2007; Moxon, Ronan,2008). However, the effect of a brief psycho-education program on the expressed emotion of care givers is not yet studied in a Turkish sample. Furthermore, the effects of such an intervention on perceived expressed emotion of patients who were not directly exposed to a psychoeducation program has not been previously studied in Turkey.

Therefore, the aim of the present study is to investigate the effects of a brief psycho-education program for schizophrenia patients' primary care-givers, on patients' perceived criticism, and caregivers' expressed emotion and burn out. In order to reach this aim experimental group I: Active psychoeducation and written material on schizophrenia, experimental group II: written material only group, and a control group: Wait list will be compared.

The hypotheses of the current study are as follows;

1. Criticism/ Hostility dimension of the Expressed Emotion Scale scores of the key relatives in the Experimental Group I will significantly decrease from pre to post intervention, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group.
2. Emotional over involvement dimension of the Expressed Emotion Scale scores of the key relatives in the Experimental Group I will significantly decrease, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group.
3. Emotional Exhaustion dimension of Maslach Burnout Scale scores of the key relatives in the Experimental Group I will significantly decrease, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group.
4. Personal accomplishment dimension of Maslach Burnout Scale scores of the key relatives in the Experimental Group I significantly increase, whereas the scores of the control group will remain the same.

Experimental Group II will also have a significant increase from pre to post intervention and will score between the Experimental Group I and the Control Group.

5. Perceived Criticism/ hostility dimension of Perceived Expressed Emotion Scale scores of patients in the Experimental Group I will significantly decrease, whereas the scores of the patients whose key caregiver is in the control group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group.
6. Perceived Emotional Over involvement dimension of Perceived Expressed Emotion Scale scores of patients whose relatives in the Experimental Group I will significantly decrease, whereas the scores of the patients whose key caregiver is in the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group.
7. Knowledge about Schizophrenia Questionnaire scores of caregivers in the Experimental Group I will significantly increase, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant increase from pre to post intervention and will score between the Experimental Group I and the Control Group.

## 1.5 Importance of the Study

It is important to develop empirically supported brief psycho-education programs that can reduce expressed emotion and perceived expressed emotion that are suitable for Turkish samples. These kind of brief programs have economical advantages when compared with long term interventions. Practical issues like transportation may occur as obstacles at attending a long term psycho education program and that is why we preferred a brief, intensive and compact program that lasts only for a full day. On the other hand, according to the report of World Schizophrenia Fellowship (1998), if family members perceive these interventions as a “training” that is expecting them to take on more responsibilities with much effort, they may “stay away”; so we scheduled the program as simple and used all available facilitating factors, for instance treatment team helped patients and their families start their treatment process with formal record for which they used to wait in long queues; and they came to hospital only four times.

The movies and films which were shown during the psycho education program were in Turkish and they were developed from Turkish samples, representing the conditions of Turkey. So the participants can feel at home and can easily adjust to these culture appropriate sessions.

This is also the first study in Turkey which used perceived expressed emotion of the patients as an outcome measure to assess the effectiveness of the intervention that is given to the families. In other words, we aimed to examine whether any changes reported by relatives are also reflected in patients’ ratings of perceived expressed emotion.

This program is not only designed to reduce harmful family interactions, such as minimizing criticism/ hostility and emotional over involvement but also aimed to accomplish certain objectives including helping the family acknowledge that their patient suffers from a mental illness, minimize felt responsibility for the illness by

providing information about schizophrenia, increasing knowledge on schizophrenia which may lead to a decrease in burn out.

## **CHAPTER 2**

### **METHOD**

#### **2.1 Subjects**

A total of 150 participants representing 75 schizophrenia patients and 75 key relatives of these patients were included in the study. Patients, 24 females (32%) and 51 males (68 %) with a DSM IV diagnosis of schizophrenia and their families, 47 females (62.66) and 28 (37.33 %) males were selected from the outpatient Psychoses Polyclinic of Psychiatry Clinic of Ankara Oncology Research and Training Hospital. Exclusion criteria were relatives who deny the diagnosis of schizophrenia and whose relative was at the selection time hospitalized. The sociodemographic characteristics of the key relatives and patients in the three groups are given in Tables 1 and 2.

The key relatives were randomly assigned into three groups. Experimental Group I: consisted of key relatives who were given a psycho education program and written material package about schizophrenia. Experimental Group II: consisted of the key relatives who were given only the written material package about schizophrenia and Control Group: the wait list group who were not given any intervention or material.

Table 1 Sociodemographic Characteristics of the Patients

		EXPERIMENTAL GROUP I	EXPERIMENTAL GROUP II	CONTROL GROUP
		Mean (SD)	Mean (SD)	Mean (SD)
Age		36.52 (12.68)	36.40 (12.42)	32.28 (9.72)
Years of education		7.16 (3.50)	9.04 (3.45)	7.60 (3.29)
		N (%)	N (%)	N (%)
Gender	Male	15 (60)	18 (72)	18 (72)
	Female	10 (40)	7 (28)	7(28)
Marital status	Single	14 (56)	13 (52)	16 (54)
	Married	9 (36)	10 (40)	6 (24)
	Widowed	1 (4)	- -	1 (4)
	Divorced	1 (4)	2 (8)	2 (8)

Note. Experimental Group I: received active psycho education + written material; Experimental Group II: received only written material; Control Group: wait list group with no intervention

Table 2 Sociodemographic Characteristics of the Key Relatives

		EXPERIMENTAL GROUP I	EXPERIMENTAL GROUP II	CONTROL GROUP
		Mean (SD)	Mean (SD)	Mean (SD)
Age		48,26 (11,56)	54,04 (14,04)	49,44 (13,45)
Years of education		8.84 (4.25)	10 (3.10)	10.48 (3.01)
		N %	N %	N %
Gender	Male	7 (28)	12 (48)	9 (36)
	Female	18 (72)	13 (52)	16 (64)
Relationship to the patient	Mother	14 (56)	10 (40)	12 (48)
	Father	5 (20)	9 (36)	7 (28)
	Spouse	4 (16)	2 (8)	3 (12)
	Sibling	1 (4)	3(12)	2 (8)
	Other	1 (4)	1(4)	1 (4)
Marital status	Single	1 (4)	1(4)	2 (8)
	Married	21(84)	22 (88)	19 (76)
	Widowed	1 (4)	1(4)	2 (8)
	Divorced	2 (8)	1 (4)	2 (8)
Place participant lived most of her/his life	Metropolitan city	20 (80)	19 (76)	20 (80)
	City	1 (4)	3 (12)	2 (8)
	Village	4 (16)	3 (12)	3 (12)
Job	Retired	7 (28)	5 (20)	6 (24)
	House wife	11(44)	6 (24)	8 (32)
	Civil servant	2 (8)	3 (12)	3 (12)
	Self employed	3 (12)	6 (24)	4 (16)
	Worker	2 (8)	4 (16)	4 (16)

## 2.2 Instruments

### 2.2.1 The Instruments Administered to the Key Relatives

The key relatives were given a sociodemographic characteristics information form, the Expressed Emotion Scale, Maslach Burn out Inventory and Knowledge about Schizophrenia Questionnaire as pre-tests; the sociodemographic form was given only at the beginning of the study because the same key relatives were contacted at the time of post-test measures.

#### 2.2.1.1 Sociodemographic Information Form

The details on background characteristics of the caregivers were collected with a questionnaire which aimed to gather information on sociodemographic characteristics, such as age, gender, education level, marital status and current employment status. The sociodemographic information of the patients' was also obtained from the relatives form in order to confirm responses.

In addition to sociodemographic information about the key relative and patient, the sociodemographic form for relatives contained questions related to the belief for treatment of schizophrenia and two open ended questions, which are "According to your point of view, what is schizophrenia?" and "What are the symptoms of schizophrenia?". Lastly, the key relatives were asked about their level of information about schizophrenia in 3- point Likert format (1= not satisfactory; 3=completely satisfactory) (See Appendix B for Sociodemographic Information Form for the key relatives).

#### 2.2.1.2 Expressed Emotion Scale

Expressed Emotion Scale (EES) was developed by Berksun in 1992, to be used for assessing expressed emotion components of family members. It is a 41 item

scale, answered in true-false format, and is composed of two factors (Criticism/ Hostility and Emotional Over-involvement). EES is given to the key relative in order to measure his/her expressed emotion level. It was developed and used in Turkish samples. According to a Turkish study, it is an appropriate instrument which can be used in Turkish samples to assess dimensions of EE with its high Cronbach Alpha reliabilities of factors. The criticism/ hostility factor was found to be .87; and the emotional over involvement factor was found to be .84 (Karanci & İnandılar, 2002) in a sample of caregivers of Turkish schizophrenic patients.

In the current study, EES was chosen as the measurement for EE due to its simplicity of administration and because of the fact that it was developed and used in Turkish samples. The current study revealed that the Cronbach's Alpha reliability was .82 and .85 for the Criticism/hostility and Emotional over involvement factor respectively; and .82 for the whole scale (See Appendix C for Expressed Emotion Scale).

#### 2.2.1.3 Maslach Burn out Scale

Maslach and Jackson developed MBI, which consists of 22 items to assess three factors of burn-out; emotional exhaustion, depersonalization and lack of personal accomplishment. Participants are asked to report the frequency of personal feelings or attitudes towards a given situation. The adaptation and translation study of the MBI was conducted by Ergin (1992), who modified the response format to a 5 point scale (0=never; 4= always).

MBI was adapted to be applied to the parents of handicapped children by Duygun and Sezgin (2003). They found two factors; emotional exhaustion and personal accomplishment, in a sample of mothers of mentally retarded children. Cronbach Alpha values were .80 for both factors.

In Elçi's study (2004), with parents of autistic children, the alpha values were found as .87 for emotional exhaustion, .74 for lack of personal accomplishment and .85 for total burn out scale.

The current study revealed that the Cronbach's Alpha reliability was .83 and .76 for the emotional exhaustion and the personal accomplishment factors respectively; and .84 for the whole scale (See Appendix D for the Maslach Burnout Scale).

#### 2.2.1.4 Knowledge about Schizophrenia Questionnaire

In practical, there is a lack of easily administered, psychometrically- sound instruments that measure knowledge about schizophrenia that can be applied in a wide variety of settings and populations. Several scales have been developed to assess the knowledge about schizophrenia among caregivers in order to test effects of specific psychoeducational programs.

In 1989; Barrowclough and colleagues developed Knowledge about Schizophrenia Interview (KASI) to assess the functional value of relatives' knowledge about schizophrenia as part of a study of psychological interventions that included an educational component. The KASI is scored based on an audio taped interview focusing on the presence of knowledge about schizophrenia and the effects of that knowledge on the relatives' behavior toward patient. It had six sections which are diagnosis, symptoms, etiology, medication, course and prognosis and management of schizophrenia (Barrowclough & Tarrier, 1992).

Another instrument which has 14 items with true/ false format is the Knowledge about Schizophrenia (KOS). It was developed in Taiwan in order to measure caregivers' knowledge about symptoms, causes, treatment, and community rehabilitation of schizophrenia (Yang, 1999).

The Knowledge about Schizophrenia Questionnaire (KASQ) was developed by Ascher-Swanum (1999) which is a 25 item, multiple choice test that assess the knowledge about schizophrenia covering the titles including diagnosis, epidemiology, etiology, medications and side effects, stress factors and legal issues regarding schizophrenia.

In the literature, there are a variety scales which are used in single studies or within a specific research group and their psychometric properties were rarely reported (Pakenham& Dadds, 1987; Harrison et al, 1998; De Groot et al, 2003; Posner et al, 1992; Cazzullo et al; 1989; Sellwood et al, 2003; Montero et al, 1999; Cassidy et al, 2001, Compton, 2007).

For the present study, the literature was screened in order to accumulate the sample questions that assess knowledge of the schizophrenia of the caregivers. 40 items were collected and written as statements that requires “true/false” response. The questions covered the etiology, symptoms, prognosis and the role of the family in the course of the illness, psychosocial and medical treatments of schizophrenia. In the last question, the level of their knowledge about schizophrenia was asked to the relatives of schizophrenic patients, using a 7 point Likert type format. The scores of the questionnaire was evaluated as a continuous variable during the analysis with a minimum score 0 and a maximum score of 40.

The current study revealed that the Cronbach’s Alpha reliability was .81 for whole questionnaire (See Appendix E for Knowledge about Schizophrenia Questionnaire).

## 2.2.2 The Instruments Administered to the Patients

The patients were given a sociodemographic characteristics information form and the Perceived Expressed Emotion Scale as pre-tests; the sociodemographic form was given only at the beginning of the study because the same patients were contacted at the time of post-test measures.

### 2.2.2.1 Sociodemographic Information Form for Patients

The details on background characteristics of the patients were collected with a questionnaire aimed to gather information on sociodemographic characteristics, such as age, gender, education level, marital status and current employment status. Three questions were about illness related characteristics, the age of the onset of the illness; the time between the onset and first treatment attempt and the medicines used (See Appendix F for Sociodemographic Information Form for patients).

### 2.2.2.2 Perceived Expressed Emotion Scale

Expressed Emotion Scale was transformed to reflect perception of expressed emotion of caregivers by the patients (Yalçınkaya, 2006). PEES has two factors which are criticism/hostility and emotional over-involvement. The Cronbach Alpha coefficients of the two factors were .93 and .79 respectively.

In another study conducted by Bastug (2008), PEES was used to evaluate how patients perceive their relatives' emotional expression. The Cronbach Alpha coefficients of the two factors were .83 and .81 respectively.

The current study revealed that the Cronbach's Alpha reliability was .81 and .85 for the factors of Criticism/hostility and Emotional over involvement respectively;

and .81 for the whole scale (See Appendix G for Perceived Expressed Emotion Scale).

### 2.3 Procedure

The aims and the procedures of the research were explained to the director of the Psychiatry Clinic of Ankara Oncology Research and Training Hospital and his consent for the study was obtained. Subsequently, the patients, with a DSM-IV diagnosis of schizophrenia, who applied to the Psychoses Polyclinic, were informed about the study and they were asked whether they and their key relatives would like to participate in this study. Their oral and written informed consent was taken. Lastly, they were assigned into three groups randomly. The key relatives in the first group (Experimental Group I) were given a one-day psychoeducational workshop and a written material package about schizophrenia which can be obtained from the author were provided for them. In the second group (Experimental Group II), key relatives were only given the written material package about schizophrenia which was the same as that of the Experimental Group I. The third group (Control Group) received no intervention or any material. The written material group and the wait list group will be provided with the active intervention as the first experimental group at the end of the research process with ethical considerations.

All of the participants including patients and key relatives were given the instruments of the study as pre-test. Two weeks after pre-test, the relatives in Experimental Group I and Experimental Group II were invited to the hospital without their patients. The first group participated in the psychoeducational workshop and they were given written material package and the second group was only given the written material package. Pre test was given to Control Group without any intervention. Two months later, the post-tests were applied to all of the key relatives and their patients. The procedure is schematically summarized in Table 3. In order to test the satisfaction with the interventions, an

Table 3 Table to summarize the procedure of the study

		PRE STUDY ASSESSMENT		INTERVENTION		POST STUDY ASSESSMENT
EXPERIMENTAL GROUP I	Relatives	SCF, EES, MBS, KQ	2 WEEKS	Psychoeducation and written material package	2 MONTHS	EES, MBS, KQ, SFP
	Patients	SCF, PEES		No intervention		PEES
EXPERIMENTAL GROUP II	Relatives	SCF, EES, MBS, KQ	→	Only written material package	→	EES, MBS, KQ; SFW
	Patients	SCF; PEES		No intervention		SCF; PEES
CONTROL GROUP	Relatives	SCF, EES, MBS, KQ		No intervention		EES, MBS, KQ
	Patients	SCF; PEES		No intervention		PEES

Note. SCF= Sociodemographic Information Form; EES= Expressed Emotion Scale; MBS= Maslach Burnout Scale; KQ= Knowledge about Schizophrenia; PEES= Perceived Expressed Emotion Scale; SFP= Satisfaction Form with Psychoeducation; SFW= Satisfaction Form with Written Material Package

evaluation form of psychoeducational workshop and written material package were given to Group I and Group II at the time two assessments.

### 2.3.1 Psychoeducation

Initially, in order to test the psychoeducation program, it was given to a small group of five families of schizophrenics, in the center of Ankara Solidarity Association of Schizophrenia Patients and Their Families as a pilot study. The questionnaire regarding satisfaction with the program was also administered and evaluated.

After two weeks from application of pre – tests the first 12 key relatives who were assigned in the Experimental Group I were invited to the hospital without their patients. The workshop was started at 9.00 a.m. Initially, the psycho educator introduced herself to the key relatives; then the key relatives were asked to introduce themselves to the group. Every key relative were asked to give information about the relationship to the patient and socio demographic information belonging to the patient such as age, education level of the patient. Then they were asked to tell a short story regarding the onset of the illness and the current situation of the patient respectively. After this part of the workshop, ten minute's break was given to take tea or coffee and the social spots for schizophrenia were reflected through the picture projector. The psychoeducation through power point presentation was started at 10.30. The first part of the psychoeducation was about the description of the schizophrenia as a brain disorder with signs and symptoms of the illness. The etiology and epidemiology of the schizophrenia were presented at the latter slides. Then, the treatment of schizophrenia was established to the key relatives including medical (anti-psychotics, adverse effects of the drugs, reasons for non compliance etc.) and psychosocial approaches (individual therapy, group therapy, social skills training, psychoeducation) for schizophrenia.

The second part of the psychoeducation consisted of the relationship between family and schizophrenia. The key relatives were informed about the three concepts which are expressed emotion, perceived expressed emotion and burn out which play critical roles in the prognosis of schizophrenia. The definition and dimensions of expressed emotion and burn out were introduced to the key relatives; the scenes about the mother who showed high expressed emotion and experienced burn out from the first documentary film (Volga Volga) were shown to the key relatives and discussed. Another 10 minutes' break was given at 12.20. The documentary film "Biz, Siz, Onlar" was started at 12.30. After the movie, a discussion part was conducted for half an hour with questions answers and comments; the same written material package with the Experimental Group II was delivered at the end of the workshop. The next day, the same psychoeducational workshop was conducted for 13 key relatives in the Experimental Group I.

The aim of the psychoeducation program was to give information to the key relatives, so that they would learn more about schizophrenia and to make them understand that some of the patients' bizarre behaviors and cognitions need to be attributed to schizophrenic condition in order to change the expressed emotion from high to low levels.

A standardized psychoeducation program, consisting of videotapes, lecture, and discussion were presented to the Experimental Group I. Videotapes consisted of parts from two Turkish documentary films about schizophrenia, expressed emotion and burn out. In addition to the films, two informative spots were shown to the families. The lecture consisted of information about diagnosis, symptomatology, etiology, treatment and course of schizophrenia. The lecture was presented through a power-point presentation. Following the presentation there was a discussion period for a half an hour.

### 2.3.2 Documentary Films

In this study, two documentary films were used within the psychoeducation program. One of the films named “Volga Volga” (2007) was directed by Aysegul Taskent. The film is about the daily life of a schizophrenic patient whose mother shows high expressed emotion towards her son. The five- ten minutes’ scenes are selected in which critical/hostile and emotional indulgent behaviour patterns and burn out are shown and discussed with the key relatives after presentation of the scenes (Volga Volga can be obtained from the author).

The second film named “Biz, Siz, Onlar” (2007) which was directed by Aylin Eren and Çağdaş Kaya (55 minutes long) was presented to the key relatives of the patients. The actors and actresses of that documentary film were also real schizophrenic patients and their daily lives were handled. The film indicates the success of the patients and gave hope to the families (Biz, Siz, Onlar can be obtained from the author).

Two social spots which were prepared during the project of the Federation of Schizophrenia Associations for schizophrenia were shown to reduce the stigma on schizophrenia for ten minutes (Social spots about schizophrenia can be obtained from the author).

### 2.4 Statistical Analyses

The data were analyzed using the appropriate programs of the Statistical Package for Social Sciences (SPSS), version 15.0 for Windows (Green, Salkind, & Akey, 1997). Prior to the analyses, all variables were examined for the accuracy of data, missing values and multivariate outliers. No participant was excluded from further analyses.

Descriptive statistics were used for data analyses of the general characteristics of the sample. Five separate Repeated ANOVA Analysis were conducted for Emotional Exhaustion, Emotional Over- involvement, Perceived Criticism/ Hostility, Perceived Emotional Over-involvement and Knowledge about Schizophrenia; two ANCOVA Analysis were conducted for Personal Accomplishment and Criticism/Hostility due to initial differences between the three groups, to investigate the effects of psychoeducational intervention.

## CHAPTER 3

### RESULTS

#### 3.1 Descriptive Analysis

Prior to the analysis, basic assumptions were examined and data screening was conducted. The results of the evaluation of the assumptions of normality, homogeneity of variance-covariance, linearity and multicollinearity were found to be satisfactory. Covariates were judged to be adequately reliable for covariance analysis. The sample sizes were equally distributed in each cell.

One- way ANOVA was conducted to test the equality of Experimental Group I, Experimental Group II and Control Group in terms of age of relative ( $F(2, 72) = 1.066, p > .05$ ), years of education of relative ( $F(2, 72) = 1.965, p > .05$ ), and the duration of illness of patient ( $F(2, 72) = 1.782, p > .05$ ), which showed that the three groups were comparable in these characteristics.

Chi-square test was performed to test the equality of the three groups in terms of gender and the differences were not statistically significant  $X^2 = 6.84, df=3, p > .05$ .

### 3.2 Means, Standard Deviations, and Ranges of the Variables Used in the Study

Central tendency and dispersion scores of the variables used in the study were calculated with the aim of presenting general information about the measures of the study and are given in Table 4.

### 3.3 Correlations among the Variables of the Study

Table 5 presents the Pearson correlation coefficient among the variables used in the study. As can be seen from Table 5, at pre-test, the C/H scores of relatives were positively and significantly correlated with emotional over involvement at time one, emotional over involvement at time two and perceived criticism at time one. At post test, the C/H scores of the relatives were significantly and positively correlated with emotional over involvement at time one, emotional over involvement at time two, perceived criticism at time one, perceived emotional over involvement at time one and negatively and significantly correlated with the sense of knowledge.

The EOI scores of the relatives at time one were positively and significantly correlated with perceived criticism at time two, perceived emotional over involvement at time one, relative age, relative education and emotional exhaustion at time one and time two. The EOI scores of the relatives at time two were significantly and positively correlated with emotional exhaustion at time one and two, perceived criticism at time two and perceived emotional over involvement at time one; negatively and significantly correlated with knowledge about schizophrenia at time two and personal accomplishment at time one.

As can be seen from Table 5, the perceived C/H scores of the patients at time one were positively and significantly correlated with emotional exhaustion at

Table 4 Means, Standard Deviations, and Ranges of the Variables Used in the Study

		Variables	Mean	SD	Range
<b>TIME I</b>	Expressed Emotion	Criticism /hostility	0.45	0.20	0.05-0.92
		Emotional over inv.	0.77	0.16	0.33-1.0
	Perceived Expressed Emotion	Perceived criticism /hostility	0.54	0.15	0.12-0.95
		Perceived emotional over Inv.	0.45	0.20	0.5-0.92
	Burn out	Personal accomplishment.	1.78	0.97	0-4.0
		Emotional exhaustion	2.06	0.95	0-3.82
	Knowledge about schizophrenia		26.86	6.50	0-35
<b>TIME II</b>	Expressed Emotion	Criticism /hostility	0.45	0.20	0.05-0.95
		Emotional over inv	0.70	0.17	0.33-1.0
	Perceived Expressed Emotion	Perceived criticism /hostility	0.51	0.16	0.14-0.89
		Perceived emotional over Inv.	0.74	0.15	0.38-1.0
	Burn out	Personal accomplishment	1.91	0.99	0-4.0
		Emotional exhaustion	1.99	0.92	0-3.91
	Knowledge about schizophrenia		30.42	5.97	15-40

time one and time two, criticism at time one and time two; negatively and significantly correlated with personal accomplishment at time one and time two. The perceived C/H scores of the patients at time two were positively and significantly correlated with emotional over involvement at time one and time two, emotional exhaustion at time one and time two; negatively and significantly correlated with knowledge about schizophrenia at time two.

The perceived EOI scores of the patients at time one were significantly and positively correlated with emotional exhaustion at time one and time two. The perceived EOI scores of the patients at time two were positively and significantly correlated with relative's age, emotional exhaustion at time two; negatively and significantly correlated with knowledge about schizophrenia at time two.

Table 5 Pearson Correlation among the Variables of the Study

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. relative gender		,026	-,164	,147	,108	-,033	,057	-,052	-,049	-,109	-,112	-,195	,195	,213
2. relative age			,271*	-,133	,339**	-,095	,052	,302**	-,255*	,322**	-,176	-,140	,327**	,339**
3. relative marital status				-,106	-,171	-,160	,247*	-,123	-,222	-,009	,015	-,003	,235*	,192
4. relative education					,327**	,015	-,087	-,044	-,196	,135	,131	-,082	-,201	-,171
5. income						,020	-,144	,082	-,130	,283*	,079	-,076	-,048	-,015
6. face-to-face contact							,094	,185	,031	-,132	-,030	,286*	-,131	-,206
7. patient gender								-,057	-,034	-,191	-,134	-,119	,023	,010
8. patient age									,446**	-,241*	,038	,202	,123	,086
9. patient marital status										-,453**	,088	,166	-,086	-,036
10. patient education											-,041	-,197	,001	,025
11. knowledge about sch 1												,433**	-,061	-,112
12. knowledge about sch 2													-,130	-,325**
13. emotional exhaustion 1														,942**
14. emotional exhaustion 2														

Table 5 (continued)

Variables	15	16	17	18	19	20	21	22	23	24	25	26
1. relative gender	-,157	-,180	,150	,240*	-,141	-,049	,010	,193	-,081	-,013	,067	-,053
2. relative age	,049	-,009	,179	,228*	,361**	,287*	,133	,121	,217	,251*	-,145	-,062
3. relative marital status	,122	,144	,196	,118	,181	,081	,158	,087	,047	,038	,116	,237*
4. relative education	-,259*	-,236*	,033	,060	-,277*	-,147	-,069	-,041	-,196	-,107	,023	-,016
5. income	-,099	-,117	-,163	-,039	,123	,068	-,103	-,112	,107	,076	-,025	-,034
6. face-to-face contact	,088	,189	-,217	-,238*	-,145	-,256*	-,120	-,170	-,031	-,122	-,133	,179
7. patient gender	,090	,028	,086	,089	,069	,093	-,035	,048	-,025	-,010	,076	,100
8. patient age	,010	,060	-,072	-,109	,022	-,058	-,057	-,079	,059	-,034	-,091	-,071
9. patient marital status	-,051	-,041	-,171	-,178	-,139	-,117	-,080	-,057	-,027	-,054	-,140	-,189
10. patient education	-,011	-,074	,075	,152	,225	,202	,058	,057	,147	,210	-,116	-,169
11. knowledge about sch 1	,010	,038	-,022	-,065	-,019	-,048	,043	,007	-,094	-,131	,139	,081
12. knowledge about sch 2	,281*	,418**	-,324**	-,471**	-,060	-,489**	-,100	-,309**	-,086	-,401**	-,051	,384**
13. emotional exhaustion 1	-,301**	-,280*	,522**	,509**	,369**	,361**	,469**	,462**	,264*	,290*	,027	-,039
14. emotional exhaustion 2	-,365**	-,399**	,539**	,595**	,361**	,479**	,462**	,529**	,284*	,402**	-,004	-,179

Table 5 (continued)

Variables	15	16	17	18	19	20	21	22	23	24	25
15. lack of personal accomplishment 1	,941**	-,412**	-,439**	,027	-,159	-,282*	-,383**	-,102	-,192	,060	,362**
16. lack of personal accomplishment 2		-,418**	-,502**	,018	-,269*	-,200	-,373**	-,079	-,261*	,057	,447**
17. criticism 1			,943**	,122	,256*	,786**	,854**	,025	,136	,055	-,130
18. criticism 2				,128	,363**	,715**	,867**	,061	,255*	,036	-,239*
19. emotional over involvement 1					,766**	,162	,093	,734**	,621**	,143	,186
20. emotional over involvement 2						,120	,237*	,665**	,783**	,135	-,088
21. perceived criticism 1							,886**	,108	,104	,041	,043
22. perceived criticism 2								,085	,188	,016	-,123
23. perceived emotional over involvement 1									,871**	-,024	,073
24. perceived emotional over involvement 2										-,002	-,095
25. reported knowledge level 1											,640**
26. reported knowledge level 2											

### 3.4 Expressed Emotion

#### 3.4.1 Criticism/ hostility

In order to test whether the three groups were comparable at the pre-intervention period a one- way ANOVA was conducted to test the equality of groups in terms of criticism/hostility. The results of the ANOVA revealed significant differences between the three groups before the intervention ( $F(2,72) = 3.88, p < .05$ ) as shown in Table 6 and Table 7.

Table 6 Analysis of variance of the groups on the criticism /hostility

Criticism/hostility	Sum of Squares	df	Mean Square	F
Between groups	.308	2	.154	3.880*
Within groups	2.857	72	.040	
Total	3.164	74		

\* $p < .05$

Table 7 Means of criticism/hostility of three groups measured at time one, and the differences between them (SD given in parenthesis)

	Pre- intervention
	Time I
Experimental Group I	.37 (.20) <sub>a</sub>
Experimental Group II	.48 (.19) <sub>a</sub>
Control Group	.52 (.21) <sub>b</sub>

Because of the significant differences, one way analysis of covariance (ANCOVA) was performed in order to compare the three groups on the criticism/hostility of the key relatives, using pre-intervention scores as the covariate. Dependent variable was criticism/hostility; the independent variables were three groups. Criticism/hostility assessed in time two was found to significantly differ between the three groups ( $F(2,75)=18.481, p<.01$ ) after controlling for the criticism/hostility assessed in time one as shown in Table 8. Post hoc analysis showed that the key relatives in the Experimental Group I who were given a psychoeducation group with written material ( $M=.31, p<.05$ ) scored lowest in criticism/hostility dimension. They were lower than both the Experimental Group II ( $M=.50, p<.05$ ) and the Control Group ( $M=.54, p<.05$ ). The means of the criticism/hostility assessed in time two and the results of the ANCOVA that is time two differences are given in Table 9.

Table 8 Analysis of co-variance of the groups on the criticism

	Sum of Squares	Df	Mean Square	F	Partial Eta Squared
Group	,136	2	,068	18,481**	,342
Covariate criticism/hostility time one	2,518	1	2,518	685,729**	,906
Error	,261	71	,004		
Total	18,886	75			

\*\*p< .01

Table 9 Means of criticism/hostility of three groups measured at time two and the differences between them (SD given in parenthesis)

	Post-intervention
	Time 2
Experimental Group I	.31 (.17) <sub>a</sub>
Experimental Group II	.50 (.19) <sub>b</sub>
Control Group	.54 (.21) <sub>b</sub>

### 3.4.2 Emotional over involvement

One- way ANOVA was conducted to test the equality of groups in terms of emotional over involvement at pre-intervention period. The results of the ANOVA revealed that there were no significant differences between the three groups before the intervention ( $F(2, 72) = 0.014, p > .05$ ) as seen in Table 10.

Table 10 Analysis of variance of the groups on the emotional over involvement

Emotional over involvement	Sum of Squares	df	Mean Square	F
Between groups	.001	2	.000	.014 <sup>n.s.</sup>
Within groups	1.965	72	.027	
Total	1.966	74		

n.s.=non significant

Subsequently, an analysis of variance with repeated measures (pre and post-intervention) for the three groups was conducted on emotional over involvement levels of the key relatives (Table 10). The results showed that there was a significant effect of time ( $F= 73.984, p<.05$ ). The scores of emotional over involvement of the key relatives were significantly higher at the pre-intervention period ( $M=.78, SD=.019$ ) as compared to the post intervention period ( $M=.70, SD=.019$ ). The group main effect was not significant ( $F= 2.772, p>.05$ ).

There were a significant interaction effect of time and groups ( $F= 49.481, p<.05$ ) on the emotional over involvement as shown in Table 11 and Figure 1. The key relatives in the Experimental Group I scored the significantly lower ( $M=.58, SD=.015$ ) than the Experimental Group II ( $M=.76, SD=.017$ ) and the Control Group ( $M=.70, SD=.017$ ) at time two, whereas there was no significant difference between the Experimental II and the Control Groups at post-intervention. Only the scores of the Experimental I group decreased significantly from time 1 to time 2. There were no significant changes in emotional over involvement scores of the Experimental II and the Control Groups. The means for the three groups at pre and post-intervention periods are shown in Table 12.

Table11 Repeated analysis of variance of groups on the emotional over involvement

Emotional over involvement	Sum of Squares	df	Mean Square	F
Time	.212	1	.212	73.984*
Group	.262	2	.131	2.772
Time * group	.283	2	.142	49.481*
Error	.206	72	.003	

p<.05

Table 12 Means of emotional over involvement of three groups measured at time one and time two and the differences between them (SD given in parenthesis)

	Pre-intervention	Post-intervention
	Time 1	Time 2
Experimental Group I	.78 (.13) a	.58 (.12) b
Experimental Group II	.78 (.18) a	.76 (.17) a
Control Group	.77 (.17) a	.70 (.17) a

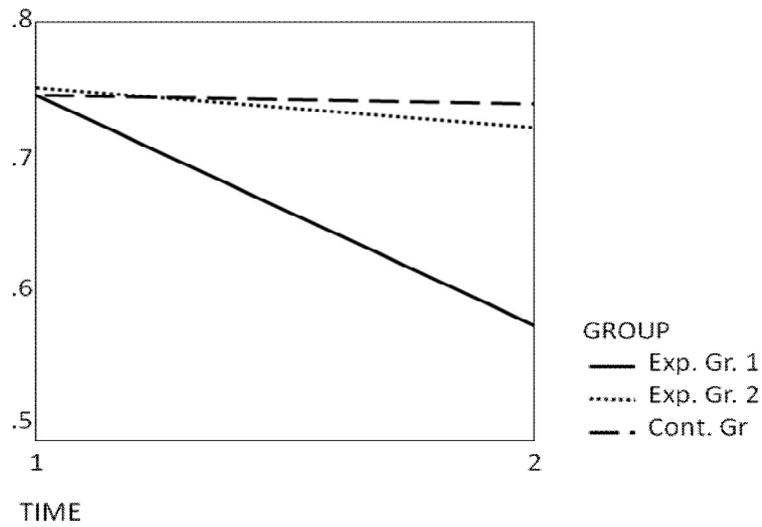


Figure 1 Time by groups interaction on emotional over involvement

### 3.5 Burn out

#### 3.5.1 Emotional Exhaustion

One-way ANOVA was conducted to test the equality of groups in terms of emotional exhaustion and the results of the ANOVA revealed that there were no significant differences between three groups before the intervention ( $F(2,72) = 1.378, p > .05$ ) as shown in Table 13.

Table 13 Analysis of variance of the groups on the emotional exhaustion

Emotional exhaustion	Sum of Squares	df	Mean Square	F
Between groups	2.481	2	1.241	1.378 <sup>n.s.</sup>
Within groups	64.820	72	.900	
Total	67.301	74		

n.s.=non significant

Due to the equality of the groups, repeated measure ANOVA, using three groups by pre and post-intervention periods was performed on emotional exhaustion as shown in Table 14.

There was a significant time effect on emotional exhaustion ( $F(1,72) = 6.543, p < .05$ ). The repeated measure ANOVA results revealed that the scores of the emotional exhaustion were decreased significantly from pre ( $M=2.07, SD=.110$ ) to post ( $M=1.99, SD=.099$ ) intervention.

The main group effect was also significant on the emotional exhaustion. The key relatives in the Experimental Group I scored lower ( $M=1.66, SD=.18$ ) than the Experimental Group II ( $M=2.32, SD=.18$ ) and the Control group ( $M= 2.12, SD=.17$ ). There were no differences between the Experimental Group II and the Control group.

The interaction effect of time and group was significant on the emotional exhaustion. The post hoc analysis revealed that the experimental Group II had significantly lower scores ( $M= 1.48, SD= .98$ ) as compared to the Experimental Group II ( $M= 2.35, SD = .94$ ) and the Control Group ( $M= 2.15, SD = .93$ ). The scores of emotional exhaustion of the key relatives in the Experimental Group I

changed significantly from pre test (M=1.83, SD= .90) to post test (M=1.48, SD= .98). The change from pre to post-intervention periods for the other two groups was not significant. The means and the differences are presented in Table 15.

Table 14 Repeated analysis of variance of groups on the emotional exhaustion

	SS	df	MS	F
Time	,212	1	,212	6,543*
Group	11.408	2	5.704	3.546**
Time * group	1,519	2	,760	23,480**
Error	2,329	72	,032	

\*\* p<.01; \* p<.05

Table 15 Means of emotional exhaustion of three groups measured at time one and time two and the differences between them (SD given in parenthesis)

	Pre-intervention	Post-intervention
	Time 1	Time 2
Experimental Group I	1.83 (.90) <sub>a</sub>	1.48 (.98) <sub>b</sub>
Experimental Group II	2.28 (.95) <sub>a</sub>	2.35 (.94) <sub>a</sub>
Control Group	2.08 (.98) <sub>a</sub>	2.15 (.93) <sub>a</sub>

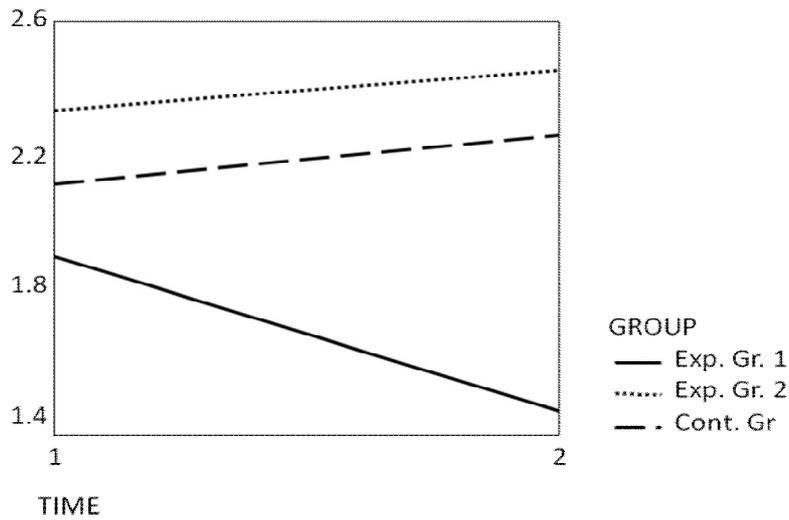


Figure 2 Time by groups interaction on emotional exhaustion

### 3.5.2 Personal Accomplishment

In order to examine the differences between the three groups before the intervention an ANOVA was performed on personal accomplishment and it was found that there were significant differences between the three groups ( $F(2,74)=5,334, p<.05$ ) as shown in Table 16 and Table 17.

Table 16 Analysis of variance of the groups on the personal accomplishment

Personal accomplishment	Sum of Squares	Df	Mean Square	F
Between groups	9,065	2	4,532	5,334*
Within groups	61,177	72	,850	
Total	70,241	74		

\*  $p<.05$

Table 17 Means of criticism/hostility of three groups measured at time one, and the differences between them (SD given in parenthesis)

	Pre-intervention
	Time 1
Experimental Group I	2.23 (.96) <sub>a</sub>
Experimental Group II	1.39 (.94) <sub>b</sub>
Control Group	1.72 (.86) <sub>a</sub>

To examine the differences between the groups at post-intervention, analysis of covariance was conducted controlling the personal accomplishment assessed in time one. The results revealed a significant effect for the groups on the scores of the personal accomplishment  $F(2, 75) = 25.048, p < .05$  as shown in Table 16. According to post hoc tests results, the means of the Experimental Group I for the feeling of personal accomplishment ( $M = 2.63, SD = .78$ ) were significantly higher than not only the Control Group who had had no intervention ( $M = 1.73, SD = .81$ ) but also the Experimental Group II who were given only written material ( $M = 1.37, SD = .95$ ). However there was no significant difference between the Experimental Group II and the Control Group (Table 19).

Table 18 Analysis of co-variance of the groups on the personal accomplishment

	Sum of Squares	df	Mean Square	F	Partial Eta Squared
Group	3,489	1	1,744	25,048**	,414
Covariate personal accomplishment time 1	47,406	2	47,406	680,766**	,906
Error	4,944	71	,070		
Total	347,961	75			

\*\* p<.01

Table 19 Means of personal accomplishment of three groups measured at time two and the differences between them (SD given in parenthesis)

Post-intervention Time 2	
Experimental Group I	2.63 (.78) <sub>a</sub>
Experimental Group II	1.37 (.95) <sub>b</sub>
Control Group	1.73 (.81) <sub>b</sub>

### 3.6 Knowledge about Schizophrenia

Initially, a One- way ANOVA was conducted to test the equality of groups in terms of emotional exhaustion at time 1, and the results of the ANOVA revealed no significant differences between the three groups before the intervention ( $F(2,72)= 1,070$ ,  $p>.05$ ) as presented in Table 20. Since there was an equality of the three groups at time one assessment, repeated ANOVA (3 groups X 2

times) three groups by pre and post-intervention was performed on knowledge about schizophrenia.

Table 20 Analysis of variance of the groups on the knowledge about schizophrenia

Knowledge about schizophrenia	Sum of Squares	df	Mean Square	F
Between groups	90,347	2	45,173	1,070 <sup>n.s.</sup>
Within groups	3040,320	72	42,227	
Total	3130,667	74		

n.s.: non significant

Repeated Analysis of variance revealed that there was a significant effect of time on the knowledge about schizophrenia ( $F(1,72)=36,807$ ;  $p<.05$ ) as seen from Table 21. The scores of the knowledge about schizophrenia of the key relatives increased significantly from pre-tests ( $M=26.87$ ,  $SD=.75$ ) to post tests ( $M=30.43$ ,  $SD=.40$ ).

The main groups effect on the knowledge about schizophrenia was also found to be significant ( $F= 14.205$ ,  $p<.05$ ). The mean scores of the knowledge about schizophrenia of the key relatives in Experimental Group I was 32.58 ( $SD=.91$ ) whereas the mean of the scores of the key relatives in the Experimental Group II was 26.98 ( $SD=.90$ ) and 26.38 ( $SD=.91$ ) in the Control Group.

The examination of the interaction effect of the time and group effect was also significant ( $F=27.515$ ,  $p<.001$ ) as seen in Table 19 and Figure 4. Post hoc analysis indicated that the mean scores of the key relatives in the Experimental

Group I increased significantly from time 1 (M=28.04, SD =1.30 ) to time 2 (M=37.12, SD=.69), and there were no such significant changes for Experimental Group I and the Control Groups. When the scores of the three groups at time 2 are examined, it was seen that the Experimental Group I had significantly higher scores (M=37.12; SD =.69) than both the Experimental Group II (M=28.56, SD=.67) and the Control Group (M=25.60, SD=.69) and that the latter two groups were not significantly different. The means and standard deviations are presented in Table 20.

Table 21 Repeated analysis of variance of groups on the knowledge about schizophrenia

	Sum of Squares	df	Mean Squares	F
Time	475,260	1	475,260	36,807***
Group	1169.33	2	584.67	14.205***
Time * group	710,560	2	355,280	27,515***
Error	929,680	72	12,912	

\*\*\* p<.001

Table 22 Means of knowledge about schizophrenia of three groups measured at time one and time two

	Pre-intervention Time 1	Post-intervention Time 2
Experimental Group I	28.04 (4.40) <sub>a</sub>	37.12 (1.76) <sub>b</sub>
Experimental Group II	25.40 (9.35) <sub>a</sub>	28.56 (3.92) <sub>a</sub>
Control Group	27.16 (4.46) <sub>a</sub>	25.60 (4.13) <sub>a</sub>

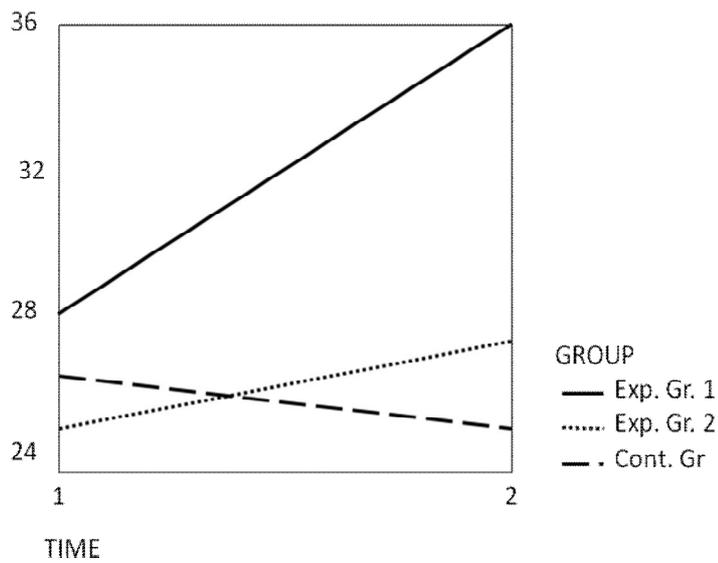


Figure 3 Time by groups interaction on knowledge about schizophrenia

### 3.7 Perceived Expressed Emotion

#### 3.7.1 Perceived Criticism/Hostility

One-way ANOVA was conducted to test the equality of groups in terms of perceived criticism and the results of the ANOVA revealed that there were no significant difference between three groups before the intervention ( $F(2,75)=1.070, p>.05$ ) as seen from Table 23.

Table 23 Analysis of variance of the groups on the perceived criticism

Perceived criticism	Sum of Squares	df	Mean Square	F
Between groups	90,347	2	45,173	1,070 n.s.
Within groups	3040,320	72	42,227	
Total	3130,667	74		

n.s.: non significant

Repeated measure ANOVA (3 Groups X pre-post assessment) was performed on the perceived criticism. Repeated measure ANOVA results revealed that there was a significant effect of time on the perceived criticism ( $F(1,72)=21.762, p<.05$ ). The patients reported less perceived criticism at the post-intervention period ( $M=.51, SD=.018$ ) as compared to the pre-intervention period ( $M=.54, SD=.16$ ).

There was no significant effect of the groups on the perceived criticism of the key relatives ( $F(2,72)=1.658, p>.05$ ).

A significant time and group interaction was found ( $F(2,72)=17.264$   $p<.001$ ). The post hoc analysis showed that the patients whose key relative was in the Experimental Group I scored lower ( $M=.44$ ,  $SD=.16$ ) at time two than the patients whose key relatives were in the Experimental Group II ( $M=.53$ ,  $SD=.17$ ) and the Control Group ( $M=.57$ ,  $SD=.14$ ). The differences between the Experimental Group II and the Control group were not significantly different. The change in the scores from pre to post-intervention scores was only significant for the Experimental Group I, and not for Experimental Group II and the Control Group. The means are presented in Table 24, and the interaction is depicted in Figure 5.

Table 24 Repeated analysis of variance of groups on the perceived criticism

	Sum of Squares	df	Mean Square	F
Time	,044	1	,044	21,762***
Group	.154	2	.077	1.658
Time * group	,070	2	,035	17,264***
Error	,145	72	,002	

\*\*\*  $p<.001$

Table 25 Means of perceived criticism of three groups measured at time one and time two

	Pre-intervention	Post-intervention
	Time 1	Time 2
Experimental Group I	.53 (.16) <sub>a</sub>	.44 (.16) <sub>b</sub>
Experimental Group II	.54 (.17) <sub>a</sub>	.52 (.16) <sub>b</sub>
Control Group	.57 (.13) <sub>a</sub>	.56 (.14) <sub>b</sub>

<sup>a, b</sup>: Mean differences is significant at the  $p < .05$  level

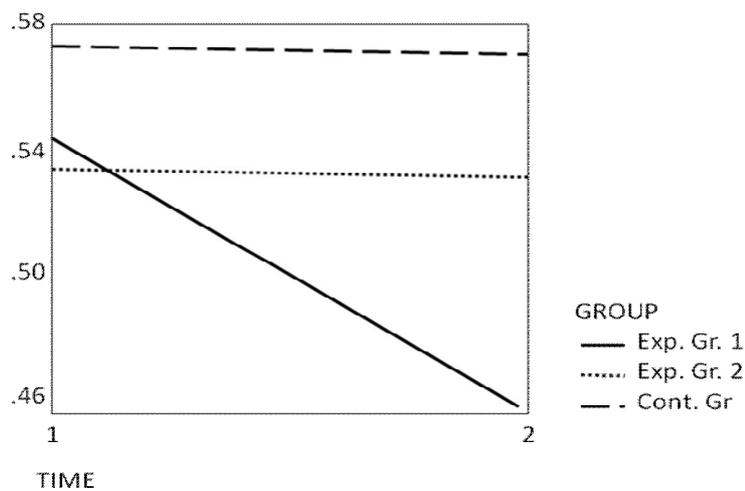


Figure 4. Time by groups interaction on perceived criticism

### 3.7. 2 Perceived Emotional Over Involvement

One-way ANOVA was conducted to test the equality of groups in terms of emotional over involvement and the results of the ANOVA revealed there was

no significant differences between the three groups before the intervention ( $F(2,75) = .124, p > .05$ ) as seen in Table 24. Because of the equality of the groups, repeated measure ANOVA was performed on perceived emotional over involvement (Table 26).

Table 26 Analysis of variance of the groups on the perceived emotional over involvement

Perceived emotional over involvement	Sum of Squares	df	Mean Square	F
Between groups	.005	2	.003	.124 <sup>n.s.</sup>
Within groups	1.528	72	.021	
Total	1.533	74		

n.s. : non significant

The time main effect on the perceived emotional over involvement was found to be significant ( $F(1,72) = 107.476, p < .05$ ). The scores of the perceived emotional overinvolvement of the patients decreased significantly from pre-intervention ( $M = .81, SD = .016$ ) to post-intervention period ( $M = .75, SD = .017$ ). There was no significant effect of group on the perceived emotional over involvement of the patients ( $F(2,72) = 1.088, p < .05$ ). However, a significant time and group interaction was found ( $F(2,72) = 53.902, p < .05$ ). The results of the post-hoc analysis showed that, although, the three groups were not different at the pre intervention period, the Experimental Group I ( $M = .67, SD = .030$ ) had significantly lower scores than both the Experimental Group II ( $M = .79, SD = .028$ ) and the Control Group ( $M = .77, SD = .031$ ) at the post-intervention period. The changes from pre to post intervention were only significant for the Experimental

Group I (time 1, M=.82, SD=.029; time 2, M=.67, SD=.030) and not for the other two groups. The means can be seen from Table 28 and the interaction effect is depicted in Figure 6.

Table 27 Repeated analysis of variance of groups on the perceived emotional over involvement

Perceived emotional over involvement	Sum of Squares	df	Mean Squares	F
Time	.131	1	.131	107.476***
Group	.091	2	.046	1.088
Time * group	.131	2	.066	53.902***
Error	.088	72	.001	

\*\*\* p<.001

Table 28 Means of perceived expressed emotion of three groups measured at time one and time two

	Pre-intervention	Post-intervention
	Time 1	Time 2
Experimental Group I	.82 (.12) <sub>a</sub>	.67 (.13) <sub>b</sub>
Experimental Group II	.81 (.15) <sub>a</sub>	.80 (.15) <sub>a</sub>
Control Group	.77 (.16) <sub>a</sub>	.77 (.16) <sub>a</sub>

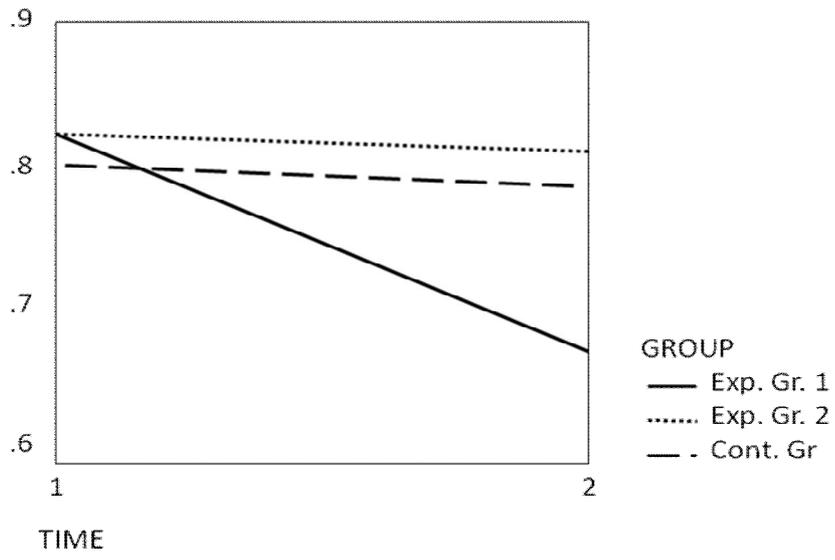


Figure 5 Time by groups interaction on perceived emotional over involvement

## **CHAPTER 4**

### **DISCUSSION**

#### **4.1 Main Aims and Major Findings**

Schizophrenia is a multidimensional illness with a profound impact on psychosocial functioning of the patients, is also imposes severe hardships not only on patients but also on their relatives. Although; the main treatment component is pharmacotherapy, other treatment approaches are also necessary for the well-being of the patients (O'Leary, Flaum, Kesler, 2000). The relatives' role, especially the expressed emotion in the home environment has been shown to be an important predictor for relapse (Barrelet, Ferrero, Szigethy, Giddey, & Pellizer, 1990; Hooley, 2007; King & Dixon, 1999; Kopelowicz, Lopez; Zarate, O'Brein, Gordon, Chang, & Gonzales- Smith, 2006; Linszen, Dingemans, Nugter, Van der Does, Scholte, & Lenior, 1997; Marom, Munitz, Jones, Weizman, & Hermesh, 2002; Vaughan, Doyle, McConaghi, Blaszcynski, Fox, & Tarrier, 1992; Yang, Phillips, Licht, & Hooley, 2004).

Therefore, numerous intervention programs to modify expressed emotion of relatives have been implemented (Kavanagh, 1992; Bebbington & Kuipers, 1994; Kuipers & Bebbington, 2005). The meta-analyses conducted by Butzley and Hooley (1998) also confirmed this relationship between expressed emotion and relapse in schizophrenia.

In the light of the literature, the present study aimed to examine the effects of a brief psycho -education program on the expressed emotion and burnout levels of the families of schizophrenic patients and the perceived expressed emotion of

the patients, who were not directly involved in the program. Overall the results indicated that a one day intensive psycho-educational workshop enriched with audiovisual components, written material package about schizophrenia and an interactive discussion part has a positive impact on the key relatives' burnout levels, expressed emotion levels and knowledge about schizophrenia. Furthermore, although no direct intervention was conducted with the patients, the results showed that the perceived expressed emotion levels of the patients whose relative was exposed to the brief psychoeducation program were also reduced. The results also showed that simply providing written material about schizophrenia does not have an effect on burnout levels, expressed emotion levels and knowledge of relatives and the perceived expressed emotion of their patients. The written material only group (Experimental Group II) did not differ from the control group.

#### 4.2 Evaluation of the Hypothesis of the Present Study

The following hypotheses were examined in the current study;

Hypothesis 1: Criticism/ Hostility dimension of the Expressed Emotion Scale scores of the key relatives in the Experimental Group I will significantly decrease from pre to post intervention, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group. This hypothesis was partially supported. The key relatives who attended the psychoeducation program scored lower than the other two groups. One of the critical subjects of the psychoeducation program was the symptoms of schizophrenia that are related to behaviours of the patients which were criticized by the relatives. It seems that the information given affected the families' evaluation of the behaviours of the patients such as labeling them as lazy; believing that the patient could control his/her symptoms if s/he had wanted to do it. The information about schizophrenia was also gained by the second group (Experimental Group II), who were given a written material

package. However, the criticism/hostility of this group at the post-intervention period was not significantly different from the Control group and was higher than the Experimental Group I. Thus, it seems that just giving written information is not an effective intervention for reducing criticism/hostility and an active psycho-educational approach, even a short one like the program applied in this study is necessary. These results are similar with Smith' study (1987) which showed that reading a material is not as effective as learning about it in a structured education process led by a professional.

Previous studies proposed that brief interventions have not got much power on decreasing expressed emotion but they were found to be effective in reducing burden of families and increasing the knowledge about schizophrenia. However, in the present study, the relatives' criticism/hostility towards the patients were reduced significantly; the rationale for this reduction could be the presentation style of the psychoeducation, including an audiovisual component as a documentary film in which a high expressed emotion mother was acting critically and in a hostile manner towards her son. Those scenes were based on the real daily life of a real family and were discussed during the psychoeducation program. The key relatives in the group provided examples from their own experiences and seemed to be deeply involved in the discussion. This lively participation and the fact that the film initiated a lively discussion and sharing of experiences may be the reason for the effectiveness of the current brief program in decreasing critical/hostile attitudes of the relatives.

Hypothesis 2: Emotional over involvement dimension of the Expressed Emotion Scale scores of the key relatives in the Experimental Group I will significantly decrease, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group. This hypothesis was partially confirmed since the key relatives who were given an active psychoeducation program with written material scored lower than the other two groups in the post-intervention period. Furthermore, the

change in the scores of emotional over involvement was only significant for the Experimental Group I, showing a significant decrease from pre- to post-intervention. Theories, implicating family as playing a causal role in the development of schizophrenia have lacked empirical support however the families still feel responsibility for causing the illness. That feeling of responsibility causes family members to show extreme protectiveness towards the patient with a high sense of guilt. The etiologic model of schizophrenia was covered during the psychoeducation program and the key relatives ensured that they were not responsible for the development of schizophrenia; the causes of schizophrenia were given and the myths about the causes of schizophrenia such as the evil eye, beating, soldiery and evil spirits are handled. The topic was discussed in the group. This information could be responsible for the reduction of scores in emotional over involvement. Accordingly, the key relatives were told that the over protectiveness of the patient was not a terrible experience for the patients but this kind of attitude may reduce their own quality of life. The message of being a “human” and having an independent existence apart from their patient was given to the relatives. Furthermore, the idea of being natural members of the treatment team, that families should be strong and healthy and be capable of problem solving and crisis management rather than being dedicated to his/her patients’ life and burn out were discussed. All these discussions seem to have reduced the emotional over involvement of the Experimental group I. The results did not confirm the expectation that written material group will also change and will be in between the active Experimental Group I and the Control group. Since, the possible shortcomings of providing only written material are given above, in the discussion of criticism/hostility it will not be repeated again.

Hypothesis 3: Emotional Exhaustion dimension of Maslach Burnout Scale scores of the key relatives in the Experimental Group I will significantly decrease, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post

intervention and will score between the Experimental Group I and the Control Group; Hypothesis 4: Personal accomplishment dimension of Maslach Burnout Scale scores of the key relatives in the Experimental Group I significantly increase, whereas the scores of the control group will remain the same. Experimental Group II will also have a significant increase from pre to post intervention and will score between the Experimental Group I and the Control Group. These hypotheses were supported since the Experimental Group I which was the psychoeducation group with given written material scored the lowest scores in that scale compared to other two groups which were Experimental Group II and the Control Group. These results are parallel with the studies regarding the effectiveness of psychoeducation programs on burnout (Gutierrez-Maldonado, 2007; Stam & Cuijpers, 2001); even for a short period psychoeducation has got an impact on the burdens of the families. The second documentary film was about the real schizophrenic patients' daily life and successes. The key relatives were injected hope by this movie by seeing the people, ill people and efforts of them to reach an achievement. Moreover, the solidarity associations were suggested to the key relatives and they were directed and encouraged to share difficulties with people there who are experiencing similar problems. They were had chance to talk to other members of the group and had more information about other community resources that could improve their social interactions.

Hypothesis 5: Perceived Criticism/ hostility dimension of Perceived Expressed Emotion Scale scores of patients in the Experimental Group I will significantly decrease, whereas the scores of the patients whose key caregiver is in the control group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group and Hypothesis 6 Perceived Emotional Over involvement dimension of Perceived Expressed Emotion Scale scores of patients whose relatives in the Experimental Group I will significantly decrease, whereas the scores of the patients whose key caregiver is in the

Control Group will remain the same. Experimental Group II will also have a significant decrease from pre to post intervention and will score between the Experimental Group I and the Control Group. These hypotheses were also supported; the perceived emotional over involvement levels and perceived criticism/hostility scores of the patients whose key relative had attended active psychoeducation program reduced significantly. This result was also significant in the correlation of expressed emotion and perceived expressed emotion. Parallel with the reduction in expressed emotion, it reflected to the patients' perception of expressed emotion.

Hypothesis 7: Knowledge about Schizophrenia Questionnaire scores of caregivers in the Experimental Group I will significantly increase, whereas the scores of the Control Group will remain the same. Experimental Group II will also have a significant increase from pre to post intervention and will score between the Experimental Group I and the Control Group. This hypothesis was supported because the key relatives in the psychoeducation group with written material (Experimental Group I) scored the highest compared to the two other groups (Experimental Group II and Control Group). The improvement in their knowledge about schizophrenia was significant after two months' time. In addition to the real scores of the key relatives, the level of sense of knowledge about schizophrenia which assessed by asking the key relatives the level of information about schizophrenia in 7- point Likert format was increased significantly. Before the intervention they were not aware of their knowledge level but after intervention, the real scores and sense of knowledge about schizophrenia found to be significantly correlated. So it can be said that, this program increased the awareness of the families about what they had known and had not known. The study of Moxon and Ronan in 2008 had found the similar results with the present study. In both study, after a short psychoeducation program, the key relatives showed improvement in knowledge and reduction in expressed emotion.

In the present study, it was suggested that the reduction in those would be higher in Experimental Group I (families who had active psychoeducation and written material package) than in Experimental Group II (families who had only written material package) as a result of group interaction and being psycho educated by a professional rather than reading a written material only. This hypothesis was confirmed; the key relatives in the written material group did not show significant improvement in the scales although the satisfaction of written material form which was an indicator for that they had read and understood was filled by them. The reason for this can be found in the research of Smith and colleagues (1987) in which it is proposed that reading a material is less effective than gaining information in a setting with the leading of the professionals. Moreover, the audiovisual materials such documentary films and power point presentation, and interactive allocation such as discussion part of the program in the first group, may be result as facilitation for the learning and retaining.

#### 4.3 Limitations of Study

There are some limitations of the present study that needs to be considered. Firstly, expressed emotion, burn out and perceived expressed emotion are related to relapse rates of the schizophrenic patients. Generally, schizophrenia research investigate relapse within a nine to twelve month interval. However, due to the time limitations in the present study, relapse rates, and number of rehospitalization of the patients after the intervention could not be assessed. A follow-up design, using longer time intervals and assessing the symptom levels and relapse rates of the patients are required.

Furthermore, the study did not assess the negative and positive symptoms of the patients. Thus, the present study only assessed the effects of the interventions on expressed emotion of families and the perceived expressed emotion of patients. In the future studies, how the changes in expressed

emotion, burn out and perceived expressed emotion relate to symptom levels and relapse needs to be studied.

The psychoeducation program was designed by the researcher for this study. The validity and the reliability of the impact of the program were partially supported in the current study, but needs to be tested further in other studies. The program was given by the same researcher who developed it, thus the effect of the psycho educator could not be controlled. Therefore, in future studies other professionals need to be trained to deliver the program and the impact of the program when applied by different professional can be tested again.

The Knowledge about Schizophrenia Questionnaire was developed for the current study and the content validity and psychometric properties were only evaluated in this sample.

#### 4.4 Strengths of the Study

Designing an empirically supported brief psycho-education program that can reduce EE & PEE and are suitable for Turkish samples is very important. These kind of brief programs have economical advantages when compared with long term interventions. Practical issues like transportation may occur as an obstacle at joining a long term psycho education program and that is why we preferred a brief, intensive and compact program for one day. On the other hand, according to the report of World Schizophrenia Fellowship (1998), if family members perceive these interventions as a “long standing training” that is expecting them to take on more responsibilities with much effort, they may “stay away”; the program was scheduled as simple as possible and the treatment team helped the key relatives with the hospital formalities. The key relatives came to hospital only four times. The movies and films which were shown during the psycho education program were in Turkish and they were specific to Turkish families

and their patients thus representing the conditions of Turkey. So the participants could adjust easily to these culture specific sessions.

This program is not only designed to reduce harmful family interactions such as minimizing criticism/ hostility and emotional over involvement but also aims to accomplish certain objectives including helping the family acknowledge that their patient suffers from a mental illness, minimize felt responsibility for the illness by providing information about schizophrenia, and reducing the burn out levels.

This is also the first study in Turkey which also assessed perceived expressed emotion of the patients who were not directly involved in any program, but were expected to be indirectly influenced through their relatives.

#### 4.5 Clinical Implications of the Study

It has repeatedly been demonstrated that psychoeducational programs aimed at reducing EE in family environments can also reduce the rate of patient relapse in terms of clinical significance (Dixon and Lehman, 1995). For this reason, this program can be used in clinical practice. The present study showed that a brief, one-day enriched program can be an effective method to change expressed emotion levels of the relatives. Furthermore, it also seems to change the perceived expressed emotion of patients. Therefore, after evaluating the program in other samples and with various professionals, the program can be adopted as a routine application in all psychiatry clinics in Turkey. Training programs for professionals in the administration of the brief program can be developed. This will increase the number of professionals who can deliver the program.

This psychoeducation program can also be presented both to the key relatives of the outpatients and inpatients; it has an applicable form in hospital setting.

Finally, the present study showed that an intensive brief psychoeducation program is very valuable in decreasing the expressed emotion of relatives and

the perceived expressed emotion of patients. Furthermore, the program led to a decrease in burn out and increased knowledge about schizophrenia. The present study also showed that providing only written material without making an active effort to involve the relatives in active discussions does not have an effect. Therefore, providing brief psycho-education programs involving active participation routinely at psychiatry clinics in Turkey for the relatives is highly recommended. This seems important for both decreasing expressed emotion and also the burn out of families which is likely to contribute to the future well-being of the patients and the relatives themselves.

#### 4.6 Directions for Future Research

The relatives of the schizophrenic patients should be involved in the treatment of schizophrenia and be acknowledged as the natural members of the treatment team. So they should be routinely assessed for burnout levels and quality of their lives in order to increase their contribution to the well being of their patients. The interventions for reducing their burdens should be organized and presented. In addition, the role of them in the course of the illness should be considered and their expressed emotion related to the relapse of the patient should be reduced by providing them compact and effective psychoeducation programs.

The perception of the patient is as important as the attitudes and behaviours of the family towards the patients so perceived expressed emotion is also a critical component for the course of the illness. More attention should be paid to perceived expressed emotion and its predictors, in addition, it should be considered when planning treatment programs.

The content of the psychoeducation could be enriched and it should be adapted in the routine treatment package. This kind of interventions should be developed by trying to find the best for both the families and patients.

In the process of the evaluation of expressed emotion and perceived expressed emotion, the positive –negative symptoms of the patients should be considered and studies should be conducted on the relationship between symptoms and the components of expressed emotion

The more effective and advantageous programs may be developed with large samples of relatives and patients with different psychopathologies.

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## APPENDICES

### APPENDIX A

#### Informed Consent

Sayın katılımcı,

Bu çalışma, Orta Doğu Teknik Üniversitesi Klinik Psikoloji Yüksek Lisans Programı çerçevesinde Psk. Merve Yüksel tarafından Prof. Dr. A. Nuray Karancı danışmanlığında yürütülen yüksek lisans tezi kapsamında hazırlanmıştır. Bu çalışmanın amacı, kısa süreli bir psiko-eğitim programının şizofreni hasta yakınlarının duygu dışavurumları ve tükenmişlik düzeyleri ile şizofreni hastalarının algıladıkları duygu dışavurumunun üzerindeki etkisini incelemektir.

Çalışma kapsamında dolduracağınız anketler bireysel incelemeye tabi tutulmayacak olup, sonuçlarınız gruplar halinde değerlendirilecektir. Lütfen soruları eksiksiz ve içtenlikle cevaplayınız. Verdiğiniz bilgiler kesinlikle bu araştırma kapsamı dışında kullanılmayacaktır.

Katılımınız için teşekkür ederiz.

İletişim: [muazzezmerve@yahoo.com](mailto:muazzezmerve@yahoo.com)

Tez Danışmanı: Prof. Dr. A. Nuray Karancı

Psk. M. Merve Yüksel

ODTÜ Psikoloji Bölümü

ODTÜ Klinik Psikoloji Programı

## APPENDIX B

### Sociodemographic Information Form For The Key Relatives

1. KATILIMCI NO:

2. HASTAYA YAKINLIK DERECESENİZ:

( ) Annesi ( ) Babası ( ) Eşi ( ) Kardeşi

Diğer .....

3. YAŞINIZ: .....

4. CİNSİYETİNİZ

( ) Kadın ( ) Erkek

5. MEDENİ DURUMUNUZ

( ) Bekar

( ) Evli

( ) Dul (Boşanmış)

( ) Dul (Eşi ölmüş)

6. AYLIK ORTALAMA GELİRİNİZ?.....

7. KİMLERLE YAŞIYORSUNUZ?.....

8. EVİNİZ KAÇ ODALI?.....

9. EVDE HASTANIZIN KENDİNE AİT ODASI VAR MI?

( )Evet

( )Hayır

10.EĞİTİM DURUMUNUZ

( ) Okuma- yazma bilmiyor

( ) Okuma-yazma biliyor

( ) İlkokul mezunu

( ) Orta okul mezunu

- Lise mezunu
- Yüksek okul mezunu
- Üniversite mezunu
- Üniversite üstü

11. MESLEĞİNİZ.....

12. ŞU ANDA ÇALIŞIYOR MUSUNUZ?

- Evet
- Hayır

13. SOSYAL GÜVENCİNİZ VAR MI?

- Evet (Lütfen belirtiniz).....
- Hayır

14. HASTALIĞI İLK HİSSETTİĞİNİZ ZAMAN İLE DOKTORA BAŞVURDUĞUNUZ ZAMAN  
ARASINDA GEÇEN SÜRE

..... AY

15. YAŞAMINIZIN EN UZUN SÜRESİNİ NEREDE GEÇİRDİNİZ?

- Büyükşehir
- Şehir
- İlçe /Kasaba
- Köy

16. HASTANIZLA HAFTADA ORTALAMA KAÇ SAAT BİRLİKTESİNİZ? .....

17. HER HANGİ BİR PSİKOLOJİK RAHATSIZLIK GEÇİRDİNİZ Mİ?

Evet .....

Hayır

18. AİLENİZDE BAŞKA PSİKOLOJİK RAHATSIZLIĞI OLAN VAR MI?

Evet (Kim?)..... Tanı?.....

Hayır

19. SİZCE ŞİZOFRENİ TEDAVİ EDİLEBİLİR BİR HASTALIK MIDIR?

Evet

Hayır

20. ŞİZOFRENİ HAKKINDAKİ BİLGİ DÜZEYİNİZ NE KADAR?

Hiç yeterli değil

Ne yeterli ne yetersiz

Tamamen yeterli

21. SİZCE ŞİZOFRENİ NEDİR?

22. ŞİZOFRENİNİN SEMPTOMLARI NELERDİR?

HASTANIZIN:

1. DOĞUM TARİHİ : ...../...../19....

2. CİNSİYETİ:

Kadın

Erkek

3. MEDENİ DURUMU

Bekar

Evli

Dul ( Boşanmış)

Dul (Eşi ölmüş)

4. EĞİTİM DURUMU

Okuma- yazma bilmiyor

Okuma-yazma biliyor

İlkokul mezunu

Orta okul mezunu

Lise mezunu

Yüksek okul mezunu

Üniversite mezunu

Üniversite üstü

5. HASTANIZ KİMLERLE YAŞIYOR? .....

6. İLK KEZ HANGİ TARİHTE TANI KONDU? .....

7. HASTANIZIN DAHA ÖNCE HASTANE YATIŞI OLDU MU?

Evet (Kaç kez).....

Hayır

8. HASTANIZIN İNTİHAR GİRİŞİMİ OLDU MU?

Evet (Kaç kez).....

Hayır

9. HASTANIZIN İLAÇ KULLANIM DÜZENİ NASILDIR?

Her zaman düzenli kullanır

Çoğunlukla düzenli kullanır

Bazen düzenli kullanır

Nadiren düzenli kullanır

Hiçbir zaman düzenli kullanmaz

## APPENDIX C

### Expressed Emotion Scale

#### DIŞAVURAN DUYGUDURUM ÖLÇEĞİ

AÇIKLAMA: Aşağıda hastanızla aranızdaki ilişkinin bazı yönlerini tanımlayan cümleler vardır. Lütfen hastanızı düşünerek cümleleri okuyun ve tanımlanan durumlar size uygunsuzsa doğruyu (D), uygun değilse yanlış (Y) işaretleyin. Bunu yaparken son bir yılınızı düşünün.

1. Onun bazı şeyleri kasten yaptığını düşünüyorum ve öfkeleniyorum. (D) (Y)
2. Onun hasta olduğuna inanmıyorum. (D) (Y)
3. Onunla sohbet etmekten hoşlanıyorum. (D) (Y)
4. Benim için onun istekleri diğer aile üyelerinkinden daha önemlidir. (D) (Y)
5. Onunla ilgili her şeyi, kendine özel konuları bile öğrenmeye çalışıyorum. (D) (Y)
6. Onun varlığı beni deli ediyor. (D) (Y)
7. Düşünüp düşünüp yanıyorum ne hata yaptık diye. (D) (Y)
8. Onun bazı yönlerini beğeniyor ve takdir ediyorum. (D) (Y)
9. Ona sık sık öğüt veriyorum. (D) (Y)
10. Onunla uyuşamıyoruz. (D) (Y)
11. Bıraktım artık ne hali varsa görsün. (D) (Y)
12. Aile içinde onun her şeyiyle ben ilgileniyorum. (D) (Y)
13. Ona kırılıyor, güceniyorum. (D) (Y)
14. Onun fikirlerini sonuna kadar dinlerim. (D) (Y)
15. Onun üstüne titrerim. (D) (Y)
16. Onunlayken başka şeyle ilgilenemiyorum, ilgim hep onunla oluyor. (D) (Y)
17. O benim hayatımı yaşamama engel oluyor. (D) (Y)
18. O hasta oldu diye dünya başıma yıkılmış gibi geliyor. (D) (Y)
19. Onun yaptığı işleri beğenmiyorum. (D) (Y)
20. Onun giyim kuşamını beğenmiyorum ve bunu ona söylüyorum. (D) (Y)
21. Ondan benim beklediğim gibi davranmasını istiyorum. (D) (Y)
22. Ona en ufak bir şey olacak diye endişeleniyorum. (D) (Y)
23. Onun her şeyi ile ben ilgileniyorum. (D) (Y)
24. "Ondan ah bir kurtulsam" diye düşündüğüm oluyor. (D) (Y)
25. Huzursuz ve keyifsiz olduğunda anlıyor ve ondan uzak duruyorum. (D) (Y)
26. Kendi işlerini sıralı ve düzenli yapması için onu sık sık ikaz ediyorum. (D) (Y)
27. Hastaneye yatması beni perişan ediyor, ondan ayıramıyorum. (D) (Y)
28. Biz birbirimize benziyoruz. (D) (Y)
29. Onun yanlışlarını düzeltmesini istiyorum. (D) (Y)
30. Onunla iyi anlaşırız. (D) (Y)
31. Aklım fikrim hep onda başka hiçbir şey düşünemiyorum. (D) (Y)
32. Kendini düzeltmesi için onu sık sık eleştiriyorum. (D) (Y)
33. Ondan uzak kalmak istiyorum. (D) (Y)
34. Başıma bir sürü dert açıyor. (D) (Y)

35. O olmasa bütün işler yoluna girecek. (D) (Y)
36. Bir zorlukla karşılaşsam başa çıkabiliyorum. (D) (Y)
37. Onun her şeyi ile ilgilenmek bana zevk veriyor. (D) (Y)
38. Öfkeli olduğunda ondan uzak durmam, onu yatıştırmaya çalışırım. (D) (Y)
39. Huzursuz ve keyifsiz olduğunda onunla sohbet etmeye çalışırım. (D) (Y)
40. Onun hastalığını abarttığını düşünüyorum. (D) (Y)
41. Onun morali bozuk olduğunda genellikle ben destek oluyorum. (D) (Y)

## APPENDIX D

### Maslach Burn Out Inventory

#### MASLACH TÜKENMİŞLİK ENVANTERİ

Bu arařtırmada anne/ babaların yařamlarındaki sıkıntılar, stresler ve yorgunluklar incelenmektedir. Bu amaçla hazırlanan elinizdeki ankette bu konuları yansıtan ifadeler yer almaktadır. Sizden istenen her bir ifadenin örnekleđiđi durumu ne kadar sıklıkla yařadığınızı uygun yanıt aralıđına (X) iřareti koyarak belirtmenizdir.

	Hiçbir zaman	Çok nadir	Bazen	Çođu zaman	Her zaman
1. Çocuđumdan sođuduđumu hissediyorum.					
2. Günün sonunda kendimi ruhen tükenmiř hissediyorum.					
3. Sabah kalktıđımda bir gün daha bu iři kaldıramayacađımı hissediyorum.					
4. Çocuđumun ne hissettiđini hemen anlarım.					
5. Çocuđuma sanki insan deđilmiř gibi davrandıđımı fark ediyorum.					
6. Bütün gün çocuđumla uğrařmak benim için gerçekten çok yıpratıcı.					
7. Çocuđumun sorunlarına en uygun çözümleri bulurum.					
8. Çocuđumun bakımına yönelik olarak yaptıđım iřlerden tükendiđimi hissediyorum.					
9. Yaptıđım řeylerle çocuđumun yařamına katkıda bulunduđuma inanıyorum.					
10. Çocuđumla birlikte olmaya bařladıđımdan beri insanlara karřı sertleřtim.					
11. Çocuđumun/ çocuklarımla bakımının beni giderek katılařtırmasından korkuyorum.					
12. Çok řey yapabilecek güçteyim.					

13. Çocuğumun beni kısıtladığını düşünüyorum.					
14. Çocuğumun bakımı konusunda çok fazla çalıştığımı hissediyorum.					
15. Çocuğuma ne olduğu umurumda değil.					
16. Doğrudan doğruya çocuğumla ilgilenmek bende çok fazla stres yaratıyor.					
17. Çocuğumla aramda rahat bir hava yaratırım.					
18. Çocuğumla birlikte olduktan sonra kendimi canlanmış hissedirim.					
19. Çocuğumun bakımına yönelik olarak birçok kayda değer başarı elde ettim.					
20. Yolun sonuna geldiğimi hissediyorum.					
21. Çocuğumla ilgili duygusal sorunlara serin kanlılıkla yaklaşırım.					
22. Çocuğumun kendisinin bazı problemlerini sanki ben yaratmışım gibi davrandığını hissediyorum.					

## APPENDIX E

### Knowledge About Schizophrenia

#### ŞİZOFRENİ HAKKINDA BİLGİ ÖLÇEĞİ

Bu anketin amacı, sizlerin şizofreni hastalığı hakkında ne kadar bilgi sahibi olduğunuz ölçmektedir. Aşağıda şizofreni hastalığı ile ilgili çeşitli cümleler bulunmaktadır. Lütfen cümleleri okuyun ve eğer cümle sizce doğru ise doğruyu (D) doğru değilse yanlış (Y) işaretleyin.

1	Şizofreninin nedeni beyinden kaynaklanan bir problemdir.	<input type="checkbox"/> D <input type="checkbox"/> Y
2	Şizofreni için en iyi tedavi yolu ilaç kullanmaktır.	<input type="checkbox"/> D <input type="checkbox"/> Y
3	Şizofreni hastaları kendilerini iyi hissettikleri dönemlerde ilaçlarını bırakabilirler.	<input type="checkbox"/> D <input type="checkbox"/> Y
4	Bir hekim şizofreni tanısını kişi ile yaptığı görüşme sonucu koyar.	<input type="checkbox"/> D <input type="checkbox"/> Y
5	Bir kişi Milli İstihbarat Teşkilatının bedenine bir çip yerleştirdiğini düşünmektedir. Bu belirti hezeyan (delüzyon) olarak adlandırılır.	<input type="checkbox"/> D <input type="checkbox"/> Y
6	Hastalığın seyrinde ailenin rolü yoktur.	<input type="checkbox"/> D <input type="checkbox"/> Y
7	Şizofreninin yaygın belirtileri arasında hastaların diğer insanların kendilerini izlediklerini ve takip etiklerini düşünmeleri de vardır.	<input type="checkbox"/> D <input type="checkbox"/> Y
8	Şizofreni belirtileri çocukluktan itibaren ortaya çıkar.	<input type="checkbox"/> D <input type="checkbox"/> Y
9	Başkalarını duymadığı seslerin duyulmasının önlenmesi için hastalara antipsikotik ilaçlar verilir.	<input type="checkbox"/> D <input type="checkbox"/> Y
10	Şizofreni hastaları bağımsız yaşayabilme becerilerini kazanma konusunda cesaretlendirilmelidir.	<input type="checkbox"/> D <input type="checkbox"/> Y
11	Şizofreninin yaygın belirtileri arasında hastaların şiddet uygulaması, fiziksel saldırıda bulunması ve hırsızlık yapması bulunmaktadır.	<input type="checkbox"/> D <input type="checkbox"/> Y
12	Bir kişinin şizofreni hastası olduğuna karar verecek en yetkili kişi bir aile üyesidir.	<input type="checkbox"/> D <input type="checkbox"/> Y
13	Bir kişinin şizofreni hastası olduğuna karar verecek en yetkili kişi psikiyatristtir.	<input type="checkbox"/> D <input type="checkbox"/> Y
14	Stresle başa çıkma konusunda hastalar en çok psikoterapiden yararlanmalıdır.	<input type="checkbox"/> D <input type="checkbox"/> Y
15	Antipsikotik ilaçların yol açtığı yan etkiler eğer çok ağırsa hasta ilaçları bırakmalıdır.	<input type="checkbox"/> D <input type="checkbox"/> Y
16	Şizofreni tedavisinde bitkisel ilaçlar kullanılmaktadır.	<input type="checkbox"/> D <input type="checkbox"/> Y
17	Şizofreni kişilik bölünmesidir.	<input type="checkbox"/> D <input type="checkbox"/> Y

18	Şizofreni hastaları en çok yıllarca hastanede yatarlarsa iyi olabilirler.	<input type="checkbox"/> D <input type="checkbox"/> Y
19	Şizofreni için en iyi tedavi yolu ameliyat olmaktır.	<input type="checkbox"/> D <input type="checkbox"/> Y
20	Stresle başa çıkma konusunda hastalar en çok ağrı kesici ilaçlardan yararlanmalıdır.	<input type="checkbox"/> D <input type="checkbox"/> Y
21	Duyusal küntleşme şizofreninin önemli belirtilerinden biridir.	<input type="checkbox"/> D <input type="checkbox"/> Y
22	Şizofreninin nedeni ailedir.	<input type="checkbox"/> D <input type="checkbox"/> Y
23	Şizofreninin uzun dönem yaygın sonuçlarından biri “bunama”dır.	<input type="checkbox"/> D <input type="checkbox"/> Y
24	Halüsinasyon, hezeyan ve dezorganize konuşma şizofreninin başlıca belirtilerindedir.	<input type="checkbox"/> D <input type="checkbox"/> Y
25	Başkalarının duymadığı seslerin duyulmasının önlenmesi için hastalara sakinleştiriciler verilir.	<input type="checkbox"/> D <input type="checkbox"/> Y
26	Şizofreninin nedeni cinlerdir.	<input type="checkbox"/> D <input type="checkbox"/> Y
27	Şizofreni hastaları en çok aile desteği aldıklarında ve düşük stresli ortamlarda yaşadıklarında iyi olabilirler.	<input type="checkbox"/> D <input type="checkbox"/> Y
28	Şizofreni belirtileri genellikle 18-25 yaş arası ortaya çıkar.	<input type="checkbox"/> D <input type="checkbox"/> Y
29	Şizofreni hakkında doğru bilgi almak için din adamlarına ve hocalara gidilmelidir.	<input type="checkbox"/> D <input type="checkbox"/> Y
30	Doğum öncesi annenin gribal enfeksiyona yakalanması şizofreni ile ilişkili risk faktörleri arasında bulunmaktadır.	<input type="checkbox"/> D <input type="checkbox"/> Y
31	Bir hekim şizofreni tanısını kan testi sonuçlarına göre koyar.	<input type="checkbox"/> D <input type="checkbox"/> Y
32	Tedavi sonrasında hastalar uzun süre psikotik belirtilerden kurtulurlar ve atak geçirme olasılıkları azalır.	<input type="checkbox"/> D <input type="checkbox"/> Y
33	Şizofreni hastaları sosyal hayata katılma yönünde cesaretlendirilmelidir.	<input type="checkbox"/> D <input type="checkbox"/> Y
34	Bir kişi Milli İstihbarat Teşkilatının bedenine bir çip yerleştirdiğini düşünmektedir. Bu belirti fobi olarak adlandırılır.	<input type="checkbox"/> D <input type="checkbox"/> Y
35	Hastalığın ortaya çıkmasında, ailenin rolü yoktur.	<input type="checkbox"/> D <input type="checkbox"/> Y
36	Şizofreni hakkında doğru bilgi almak için ilgili internet sayfaları incelenmeli ve kitaplar okunmalıdır.	<input type="checkbox"/> D <input type="checkbox"/> Y
37	Şizofreni tedavisinde tipik ve atipik antipsikotik ilaçlar kullanılmaktadır.	<input type="checkbox"/> D <input type="checkbox"/> Y
38	Stresli ev ortamı ve yaşam olayları hastalığın kötüleşmesine neden olur.	<input type="checkbox"/> D <input type="checkbox"/> Y
39	Şizofreninin nedeni biyolojiktir.	<input type="checkbox"/> D <input type="checkbox"/> Y
40	Şizofreni hastalarının temel ihtiyaçları aileleri tarafından karşılanmalıdır.	<input type="checkbox"/> D <input type="checkbox"/> Y

41	Şizofreni hastalığı hakkındaki bilginizin ne düzeyde olduğunu düşünüyorsunuz?
	Şizofreni hakkında hiç bilgi sahibi değilim. <span style="float: right;">Şizofreni hakkında çok bilgi sahibiyim.</span>
	2                      3                      4                      5                      6                      7

## APPENDIX F

### Sociodemographic Information Form For The Patients

#### Demografik Bilgi Formu

Katılımcı No:.....

Cinsiyet:.....

Yaş:.....

Medeni Durum:.....

En son mezun olduğu okul:

İlkokul

Ortaokul

Lise

Üniversite

Toplam Eğitim Yılı:

Hastalıkla ilgili şikayetlerin ilk başladığı yaş :.....

İlk şikayetlerin başlamasıyla, ilk tedavi girişimi arasında geçen süre: .....AY

Kullanılan ilaçlar:

## APPENDIX G

### Perceived Expressed Emotion Scale

#### ALGILANAN DIŞAVURAN DUYGU DURUM ÖLÇEĞİ

AÇIKLAMA: Aşağıda sizin bakımınızla en çok ilgilenen aile ferdiyle aranızdaki ilişkinin bazı yönlerini tanımlayan cümleler vardır. Lütfen yakınınızı düşünerek cümleleri okuyun ve tanımlanan durumlar size uygunsu DOĞRUYU (D), uygun değilse YANLIŞI(Y) işaretleyin. Bunu yaparken son üç ayınızı düşünün.

Hastalığınız ve bakımınızla en çok ilgilenen kişiyi belirtiniz.

.....

1. Benim bazı şeyleri kasten yaptığımı düşünüyor ve öfkeleniyor. (D) (Y)
2. Benim hasta olduğuma inanmıyor. (D) (Y)
3. Benimle sohbet etmekten hoşlanıyor. (D) (Y)
4. Onun için benim isteklerim diğer aile üyeninkilerden daha önemlidir. (D) (Y)
5. Benimle ilgili her şeyi, kendime özel konuları bile öğrenmeye çalışıyor. (D) (Y)
6. Benim varlığım onu deli ediyor. (D) (Y)
7. “Ne hata yaptım da o böyle oldu?” diye düşünüp düşünüp duruyor. (D) (Y)
8. Benim bazı yönlerimi beğeniyor ve takdir ediyor. (D) (Y)
9. Bana sık sık öğüt veriyor. (D) (Y)
10. Benimle uyuşamıyor. (D) (Y)
11. Beni “Ne halin varsa gör” diye bıraktı artık. (D) (Y)
12. Aile içinde benim her şeyimle o ilgileniyor. (D) (Y)
13. Bana kırılıyor, güceniyor. (D) (Y)
14. Benim fikirleri sonuna kadar dinler. (D) (Y)
15. Benim üstüme titrer. (D) (Y)
16. Benimleyken başka şeyle ilgilenemiyor, ilgisi hep benimle oluyor. (D) (Y)
17. Benim onun hayatını yaşamasına engel olduğumu düşünüyor. (D) (Y)
18. Ben hasta oldum diye dünya başına yıkılmış gibi geliyor. (D) (Y)

19. Benim yaptığım işleri beğenmiyor. (D) (Y)
20. Benim giyim kuşamımı beğenmiyor ve bunu sana söylüyor. (D) (Y)
21. Benden onun beklediği gibi davranmamı istiyor. (D) (Y)
22. Bana en ufak bir şey olacak diye endişeleniyor. (D) (Y)
23. Benim her şeyimle o ilgileniyor. (D) (Y)
24. Benden "Ah bir kurtulsam" diye düşündüğü oluyor. (D) (Y)
25. Huzursuz ve keyifsiz olduğumda anlıyor ve benden uzak duruyor. (D) (Y)
26. Kendi işlerimi sıralı ve düzenli yapmam için beni sık sık ikaz ediyor. (D) (Y)
27. Hastaneye yatmam onu perişan ediyor, benden ayrılmıyor. (D) (Y)
28. Bizim birbirimize benzediğimizi düşünüyor. (D) (Y)
29. Benim yanlışlarımı düzeltmemi istiyor. (D) (Y)
30. Benimle iyi anlaşılıyor. (D) (Y)
31. Akli fikri hep bende, başka hiçbir şey düşünemiyor. (D) (Y)
32. Kendimi düzeltmem için sık sık eleştiriyor. (D) (Y)
33. Benden uzak kalmak istiyor. (D) (Y)
34. Başına bir sürü dert açtığımı düşünüyor. (D) (Y)
35. Ben olmasam bütün işlerin yoluna gireceğini düşünüyor. (D) (Y)
36. Bir zorlukla karşılaşırsa başa çıkabileceğini düşünüyor. (D) (Y)
37. Benim her şeyimle ilgilenmek ona zevk veriyor. (D) (Y)
38. Öfkelendiğimde benden uzak durmaz, beni yatıştırmaya çalışır. (D) (Y)
39. Huzursuz ve keyifsiz olduğumda benimle sohbet etmeye çalışır. (D) (Y)
40. Benim hastalığımı abarttığımı düşünüyor. (D) (Y)
41. Moralim bozuk olduğunda genellikle o destek oluyor. (D) (Y)

## APPENDIX H

### Satisfaction Form For Psychoeducation

#### PSİKOEĞİTİM DEĞERLENDİRME FORMU

Aşağıda, az önce izlediğiniz sunuma ilişkin cümleler yer almaktadır. Lütfen cümlelere ne derece katıldığınızı kutucuklarda yer alan sayılar arasından işaretleyiniz. Değerlendirme ve katkılarınız bu eğitim programının daha yararlı ve anlaşılır hale getirilmesinde çok önemlidir. Zaman ayırdığınız için teşekkür ederim.

Saygılarımla,

Psk. Merve Yüksel

1. Hiç katılmıyorum
2. Katılmıyorum
3. Kararsızım
4. Katılıyorum
5. Tamamen katılıyorum

1. Bu eğitimin içeriği açık ve anlaşılır.	1	2	3	4	5
2. Bu eğitimin amacı açık ve anlaşılır.	1	2	3	4	5
3. Bu eğitimin hastalara nasıl davranmamız gerektiği konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
4. Bu eğitimin hastalara nasıl davranmamamız gerektiği konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
5. Bu eğitimi almalarını diğer hasta yakınlarına da öneririm.	1	2	3	4	5
6. Bu eğitim şizofreni hastalığının belirtileri konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
7. Bu eğitim şizofreni hastalığının nedenleri konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
8. Bu eğitim şizofreni hastalığının tedavisi konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
9. Bu eğitimi alanların hastalarıyla iletişim konusunda daha başarılı olacağını	1	2	3	4	5

düşünüyorum.					
10. Bu eğitimin faydalı olduğunu düşünüyorum.	1	2	3	4	5

Değerlendirmeniz:

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## APPENDIX I

### Satisfaction Form For Written Material

#### YAZILI MALZEME DEĞERLENDİRME FORMU

Aşağıda, elinizde bulunan yazılı materyale ilişkin cümleler yer almaktadır. Lütfen cümlelere ne derece katıldığınızı kutucuklarda yer alan sayılar arasından işaretleyiniz. Değerlendirme ve katkılarınız bu eğitim programının daha yararlı ve anlaşılır hale getirilmesinde çok önemlidir. Zaman ayırdığınız için teşekkür ederim.

Saygılarımla,

Psk. Merve Yüksel

1. Hiç katılmıyorum
2. Katılmıyorum
3. Kararsızım
4. Katılıyorum
5. Tamamen katılıyorum

1. Bu malzemenin içeriği açık ve anlaşılır.	1	2	3	4	5
2. Bu malzemenin amacı açık ve anlaşılır.	1	2	3	4	5
3. Bu malzemenin hastalara nasıl davranmamız gerektiği konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
4. Bu malzemenin hastalara nasıl davranmamamız gerektiği konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
5. Bu malzemeyi okumalarını diğer hasta yakınlarına da öneririm.	1	2	3	4	5
6. Bu malzemenin şizofreni hastalığının belirtileri konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
7. Bu malzemenin şizofreni hastalığının nedenleri konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5

8. Bu malzemenin şizofreni hastalığının tedavisi konusunda bilgilendirici olduğunu düşünüyorum.	1	2	3	4	5
9. Bu malzemenin okuyanların hastalarıyla iletişim konusunda daha başarılı olacağını düşünüyorum.	1	2	3	4	5
10. Bu malzemenin faydalı olduğunu düşünüyorum.	1	2	3	4	5

Size verilen yazılı malzemenin ne kadarını okudunuz?

- Tamamını dikkatlice okudum
- Bir kısmını dikkatlice okudum.
- Sadece ilgimi çeken yerlerini dikkatlice okudum.
- Bir kısmına şöyle bir göz attım.
- Hiç okumadım.

Değerlendirmeniz:

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