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# Comparison between Camberwell Family Interview and Expressed Emotion Scale in Determining Emotions of Caregivers of Schizophrenic Patients

## Şizofreni Hastalarına Bakım Verenlerin Duygu İfadelerini Belirlemede Camberwell Aile Görüşmesi ile Duygu İfadesi Ölçeğinin Karşılaştırılması

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### ABSTRACT

**Introduction:** The aim of the study was to compare the Camberwell Family Interview (CFI) and the Expressed Emotion Scale (EES) in determining the level of expressed emotion in caregivers of patients with schizophrenia.

**Method:** The study sample included caregivers of 22 schizophrenic patients followed in two psychiatric clinics. The level of expressed emotion in the caregivers was assessed by the CFI and the EES. CFI was applied to caregivers of the inpatients and the procedure was audio recorded. These records were later used for the ratings. EES was completed by the caregivers. Total EES scores were used to determine the level of expressed emotion in the caregivers.

**Results:** Forty point nine percent and 50% of the caregivers had high level of expressed emotion based on the analysis of the data obtained from the CFI and EES. Fifty-nine percent and 50% of the caregivers had low level of expressed emotion based on the data obtained from the CFI and EES. The proportion of the caregivers with high level of expressed emotion as measured by the CFI and the EES were not statistically significantly different within the sample ( $\chi^2= 0.727$ ).

**Conclusion:** The CFI and the EES were similar in determining the level of expressed emotion in caregivers of schizophrenic patients. It can be suggested that the EES, a user friendly tool, may be preferred to determine the level of expressed emotion in caregivers of patients with schizophrenia. However, further studies with larger samples are needed to obtain more reliable results. (*Archives of Neuropsychiatry 2013; 50: 301-305*)

**Key words:** Schizophrenia, caregivers, expressed emotion, Expressed Emotion Scale, Camberwell Family Interview

**Conflict of interest:** The authors reported no conflict of interest related to this article.

### ÖZET

**Giriş:** Araştırmanın amacı, şizofreni hastalarına bakım verenlerin duygu ifade düzeylerini belirlemede Camberwell Aile Görüşmesi (CAG) ve Duygu İfadesi Ölçeğini (DİÖ) karşılaştırmaktır.

**Yöntem:** Araştırmanın örneklemini iki psikiyatri kliniğine yatan 22 şizofreni hastasının bakım verenleri oluşturmuştur. Bakım verenlerin duygu ifadelerini belirlemek için CAG ve DİÖ kullanılmıştır. Hastanın klinikte yatışı sırasında bakım veren ile CAG yapılmış, görüşme teybe kaydedilmiş ve kayıt çözümlemesinin ardından duygu ifadesi ölçeklerinin değerlendirilmesinde eğitim almış araştırmacı tarafından bakım verenlerin duygu ifadesi düzeyleri belirlenmiştir. Daha sonra 41 maddeden oluşan ve bakım verenin doldurduğu DİÖ kullanılmıştır. Bakım verenlerin duygu ifadesi düzeyinin belirlenmesinde duygu ifadesi ölçeğinin toplam puanları kullanılmıştır.

**Bulgular:** CAG'ne göre bakım verenlerin %40,9'u, DİÖ'ne göre %50'si yüksek duygu ifadesi grubunda yer almaktadır. CAG'ne göre bakım verenlerin %59'u, DİÖ'ye göre %50'si düşük duygu ifadesi grubunda yer almaktadır. CAG ve DİÖ ile belirlenen yüksek ve düşük duygu ifadesi oranları arasında fark bulunmamıştır ( $\chi^2= 0,727$ ).

**Sonuç:** CAG değerlendirmesi ile DİÖ'nin şizofreni hastalarının bakım verenlerinin duygu ifadesi düzeylerini belirlemede paralellik gösterdiği saptanmıştır. Duygu ifadesi ölçeği kullanımı kolay olup şizofreni hastalarının bakım verenlerinin duygu ifadesi düzeylerini belirlemede tercih edilebilir olduğu düşünülmüştür. Bununla birlikte örneklem sayısı artırılarak daha güvenilir sonuçlar elde edilmesi gereklidir. (*Nöropsikiyatri Arşivi 2013; 50: 301-305*)

**Anahtar kelimeler:** Şizofreni, bakım verenler, duygu ifadesi, Duygu İfadesi Ölçeği, Camberwell Aile Görüşmesi

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## Introduction

Emotional attitudes of family members are named as “expressed emotion” (1). It has been reported that expressed emotion is a special criterion based on reliable evaluation of excessive protectiveness, defensiveness, interest, intrusiveness and critical expressions towards the patient (2,3,4). Expressed emotion is an indicator of the attitudes and behavior and coping reactions occurring against individuals with a diagnosis of schizophrenia. Emotional attitudes of family members is an important risk factor in the prognosis of psychiatric diseases (5,6,7,8). High expressed emotion attitudes of family members are considered as a significant determinant of recurrence in the short term in schizophrenia (9,10). Determining the coping method of the family who undertakes the psychological disease and how the patient can be affected by the family environment by assessment of expressed emotion is important for prevention of recurrence of the disease (1,8,11,12).

Different measurement tools are used to determine expressed emotion. The most familiar one among these measurement tools is CFI (3,13,14,15). Although the validity and reliability of CFI which is an interview-based assessment method of expressed emotion and is still considered as the best tool in measuring expressed emotion, it has been proposed that its use in clinical practice is limited. The reasons creating this limitation include the following facts; the interview lasts for 2-3 hours (3,8), scoring of each interview recording lasts two hours or (13), interviewers should be educated intensively before the interview (15,16). Alternative tools were developed to measure the emotional dimension of the family environment because of the above-mentioned causes. The first of these tools is The Five Minute Speech Sample (FMSS) which is used more easily by clinicians. If a family member makes one or more critical interpretation during the five-minute interview and if the first sentence of the speech is negative, this is evaluated as high level of expressed emotion. If a family member has self-accusing expressions related with the past and one or more positive expressions, this indicates emotional excessive involvement and is evaluated as high level of expressed emotion. FMSS does not assess the dimensions of warmth and hostile expressions. A scoring of high expressed emotion determined with FMSS supports the scoring of high expressed emotion in CFI, but cannot determine families with low expressed emotion (3). Moore and Kuipers (1999) evaluated expressed emotion in healthcare workers with both FMSS and CFI and found a compatibility between the two measurement tools with a rate of 89.7% (17). In another study, expressen emotions of caregivers of depressive children and schizophrenia patients were evaluated using FMSS and the relation between high level of expressed emotion and recurrence of the disease was examined. A relation was found between high level of expressed emotion of caregivers of depressive children and recurrence of the disease, but no relation was found between high level of expressed emotion of caregivers of schizophrenia patients and recurrence of the disease (3). In the study in which Tattan and Tarrier applied case management, expressed emotions of caregivers were determined with FMSS and no relation was found between high level of expressed emotion and insufficient clinical results (18). It has been reported that the determinative strength of FMSS is not clear, it cannot determine families with

low level of expressed emotion families and, cannot measure the actual interaction between patients and families and cannot be an alternative to CFI (3,19).

Various scales have been used to measure expressed emotion. Expressed emotion Level scale is the first one of these scales. Its compatibility with the results of CFI has been demonstrated and its validity and reliability study has been performed (20). Another scale is the Family Emotional Involvement and Criticism scale (21). The only scale in this area in our country is expressed emotion scale (EES) which was developed by Berksun in 1993 and for which a validity study was performed (5,22). The scale was developed using expressed emotion hypotheses and concepts to qualify and measure the emotional tone accompanying the interaction in relations based on how patient relatives perceive their patients and themselves. The validity study of the scale in a Turkish sample was performed by İnandılar (23).

CFI was used in the first study performed in this area in our country (24,25) and EES was used in five studies (26,27,28,29,30). With comparison of the validities of EES and CFI in determining expressed emotion, measurement of this variable will be performed with tools which are easier to use by clinicians.

The study was performed to compare CFI and EES in determining expressed emotions of caregivers of schizophrenia patients. Our hypothesis was that CFI and EES would give similar results in terms of determining high and low level of expressed emotion groups in caregivers of schizophrenia patients.

## Method

### Participants

The study had a descriptive design. The sample was composed of the caregivers of 22 patients with a diagnosis of schizophrenia who were hospitalized in psychiatry clinics of two university hospitals in Istanbul and who met the study inclusion criteria. The study inclusion criteria were as follows:

- Being caregiver of patients who were diagnosed according to DSM IV diagnostic criteria and who were not in the first episode,
- Being literate,
- Being the caregiver who has had the responsibility of the patient for the last three months before hospitalization which was determined by asking the relatives of the patient,
- Absence of psychiatric disease in the caregiver.

### Data Collection Tools

The demographic properties of the patients and caregivers were evaluated using the demographic properties question form designed by the investigators. This form included questions related with age, gender and disease times of the patients and age, gender and the degree of closeness with the patient of the caregivers. CFI and EES were used to determine expressed emotions of the caregivers.

Camberwell Family Interview (CFI): CFI is a semi-structured interview form which is used frequently to determine expressed emotions of caregivers in studies involving schizophrenia patients and their families together. The interview is usually performed a short time after the patient is hospitalized and focuses on the three-month period before hospitalization. With CFI technique the

level of influence of the difficulties occurring with the disease on the relatives interviewed is examined. CFI technique is structured based on the conversation of the family member on his/her patient and the disease in a comfortable and natural way. With CFI objective information including the history of the patient, symptoms and last hospitalization are obtained and the attitudes and emotions of the relative related with the patient and the disease are determined (24). An important point in the interview is examination of the behavior exhibited by the family member interviewed and the expressions told about the patient during the interview. Characteristics including the speed of the conversation, voice and stresses are also considered important as well as the content of the conversation. The interview is conducted in an empathic and supportive approach and lasts about 2-3 hours. The interview is recorded and the subdimensions are determined after analysis. In the factor analysis study, it has been shown that these dimension include criticism, hostility, emotional overinvolvement, warmth and positive remarks (2,4,24).

The term of critical interpretations indicates remarks of dissatisfaction, dislike and hatred about the patients or expression of these emotions by tone of voice. Critical interpretations are also evaluated in terms of critical content and critical tone of voice. In the evaluation, the number of remarks containing criticism used by the family member during the interview is considered.

The term of emotional overinvolvement defines exaggerated emotional reactions of family members or excessive protective, defensive, limiting and controlling attitudes and behaviour against the status of the patient. Emotional overinvolvement is assessed in a 6-degree scale ranging between 0 and 5. It is scored as none (0), very little (1), some (2), moderate (3), high (4) and extremely high (5).

Hostile attitude defined as a more extensive and generalized negative expressed emotion which is directed directly towards the patient rather than a function of the patient. The dimension of hostility is scored in a 4-degree scale between 0 and 3; none (0), only "generalization" (1), only "rejection" (2), generalization + rejection (3).

Warmth is scored according to sympathy, interest and closeness and sensibility based on empathy related with the patient while talking about the patient. Warmth is scored in a 6-degree scale between 0 and 5; none (0), very little warmth (1), some warmth (2), moderate warmth (3), considerably warm (4) and extremely warm (5).

Positive remarks are expressions which indicate that the patient's personality and behaviors are praised, approved or appreciated. In the evaluation, the number of the positive remarks used during the interview is considered (24).

In our country, the Turkish adaptation studies of CFI and ESS scales were performed by Karancı et al. the reliability results of the five subdimensions were as follows: critical expression;  $r=0.88$ , emotional overinvolvement;  $r=0.76$ , hostile attitude;  $r=0.88$ , warmth;  $r=0.42$  and positive remarks;  $r=0.97$  (31).

According to CFI, presence of 7 or more critical interpretations related with the patient by the caregiver CAG, more than 3 expressions of emotional overinvolvement, one expression of hostile attitude, rejection of hostility was evaluated to be "high level of expressed emotion" (25,32).

Expressed Emotion Scale (EES): The caregivers were asked to fill in the EES considering the last three months before hospitalization after application of CFI. EES is composed of 41 items and applied to the family members of the patient. The scale includes questions related about how the family members perceive the patient and themselves and the level of expressed emotion is determined according to the answers given. The scale is evaluated by true-false answer pattern and includes two dimensions. These include Criticism/Hostility (29 items) and Excessive Emotional Overinvolvement (12 items). When the items 3, 8, 14, 28, 30, 36, 39 and 41 are marked as "false", one point is given. When the other items are answered as "true", one point is given and on the contrary no point is given. Thus, the total score of EES ranges between 0 and 41. The validity study of the scale was performed in two groups with and without schizophrenia and a significant difference was found between the groups as expected (5,22).

Since there is no standard cut-off point for the EES in determining the level of expressed emotion (33), the mean score of the caregivers was considered as the cut-off point. Accordingly, the mean score of EES of the caregivers was  $17.14 \pm 6.19$  and the values below this were considered low level of expressed emotion, while the values above this were considered high level of expressed emotion.

#### Collection of the data

The family member of hospitalized schizophrenia patients who accompanied these patients at most was determined and invited to the hospital by calling by phone. The caregivers of the patients included in the sample were the caregivers of the psychotic disorders research program and no family member refused the interviews and filling the scale. Informed consent was obtained after giving information about the study to the caregivers. CFI was applied with voice recording after obtaining approval from the caregivers and afterwards the caregivers were asked to fill in the EES. The interviews were performed by a specialist psychiatry nurse (first author) educated in CFI and the phenomenon of expressed emotion. Analysis of the interview recordings was performed by a specialist psychiatrist (second author).

#### Analysis of the Data

Analysis of the data was performed using SPSS 10.0 package program. The socio-demographic data were evaluated with number, percent and mean values. Comparison of the levels of expressed emotion obtained by CFI and EES was performed with McNemar test. The results were evaluated at a significance level of  $\alpha=0.05$ .

The ages of the patients diagnosed with schizophrenia who were being taken care of the caregivers ranged between 16 and 50 years and the mean age was  $29.45 \pm 9.36$  years. 64% of the patients were male. The disease time of the patients ranged between 2 and 30 years and the mean disease time was  $8.95 \pm 7.51$  years. The ages of the caregivers ranged between 26 and 61 years and the mean age was  $45.72 \pm 8.79$ . 68% of the caregivers were female. 46% were mothers of the patients and 55% were housewives.

40.9% of the caregivers according to CFI and 50% of the caregivers according to EES were in the high level of expressed emotion group. 59.1% according to CFI and 50% according to EES were in the low level of expressed emotion group. McNemar test was performed to test if the rates of the patients assigned to high

**Table 1.** Distribution of the rates of caregivers with high and low expressed emotion by two scales

Expressed emotion level	Duygu İfadesi Ölçeği				Total	
	High		Low			
	Number	%	Number	%	Number	%
Camberwell Family Interview						
High	6	27.70	3	13.63	9	40.90
Low	5	22.72	8	36.36	13	59.10
Total	11	50.0	11	50.00	22	100.0
$\chi^2 = 0.727^*$ $p > 0.05$ **McNemar test was applied.						

and low level of expressed emotion groups with CFI and EES were different from each other and no significant difference was found ( $\chi^2=0.727$ ,  $p>0.05$ ) (Table 1).

## Discussion

CFI is a tool which is time-consuming and takes intensive effort in terms of application and evaluation. In the review of Kavanagh (1992) in which studies related with expressed emotion were examined (16), it was reported that one of the main tasks of future studies should be developing alternative tools to CFI. Establishment of assessment tools is becoming widespread to increase use of the phenomenon of expressed emotion by clinicians especially considering ease of use. This study is the first study in which EES and CFI which were used in different thesis and research studies in our country were compared. The finding that there was no difference between the levels of expressed emotion determined with EES and CFI supported the view that EES and CFI measured similar properties and EES which is used relatively more easily could be used instead of CFI.

Although the rates of high and low levels of expressed emotion determined with EES and CFI in the caregivers included in the sample were similar according to the results of our study, our study had some limitations. The first one of these was the fact that EES had no cut-off point and the investigators determined a cut-off point according to the mean score. Another limitation was the fact that evaluation of the voice recordings of CFI was performed by counting the expressions in the recording by the investigator. It is recommended that the mean value of two investigators should be taken in the assessment of CFI. In our study, the recordings were evaluated only by one expert.

It is thought that performing a similar study by increasing the sample size would be more directive in terms of predicting the results. In addition, studies comparing the short form of CFI which is used in our country, CFI and EES can further enrich the data related with this subject.

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