

Increased expressed emotion in patients with psoriasis

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Abstract

Aim of the study: The aim of this study was to determine whether patients with psoriasis are affected by expressed emotion in their family environment.

Material and methods: Participants included 62 patients with psoriasis and 83 healthy controls and their biological parent, wife or husband, or adult child as a key relative. Sociodemographic data were recorded. Psoriasis area severity index was used to evaluate psoriasis severity. Hamilton depression and anxiety scales and the Expressed Emotion Questionnaire form were used to evaluate depression, anxiety, and expressed emotion.

Results: The levels of expressed emotion and its subgroups in the patient group were higher than in the group of healthy controls ($p < 0.05$). Gender, disease duration, disease severity, and key relatives did not affect the levels of expressed emotion (LEE_{total}) in the patients with psoriasis ($p > 0.05$). The LEE_{total} of those with low educational level in the patient group was statistically significantly higher than those with higher educational level ($p < 0.05$). There was no correlation between the presence depression or anxiety and expressed emotion ($p > 0.05$). There was a negative correlation between age and the levels of expressed emotion in the patient group ($p < 0.05$). There was a negative correlation between age and intrusiveness in healthy controls ($p < 0.05$).

Conclusions: Although decreasing with age, expression of emotion in patients with psoriasis is high, and psychosocial support should be provided to these patients.

Key words: psoriasis, expressed emotion, dermatology.

Introduction

Psoriasis is a chronic inflammatory disease that affects 2% of the world's population (Akyol *et al.* 2016). It is an accepted fact that mental-social problems are effective at the onset and exacerbation of many skin diseases or mental problems occur secondarily in chronic skin diseases (Kumbasar and Yilmaz 2005). Because psoriasis is a chronic disease and there is not any treatment to provide a full cure yet, besides physical complaints, it is also associated with many psychological problems such as decreased self-confidence, sexual dysfunction, anxiety, depression, and suicidal ideation. Patients with psoriasis may feel like they are stigmatised because of their appearance, and therefore they may feel embarrassed. Other people may believe that psoriasis is an infectious disease and they may show negative reactions to patients with psoriasis. After this experienced negative reaction, the general condition disorder

caused by the disease and the stress developing depending on the disease in patients with psoriasis also increases even more (Chen *et al.* 2014). The relationship between psychological events and psoriasis is bi-directional, and the effect of psychological factors on its onset and exacerbation is a generally accepted characteristic. Additionally, the psychological disorders caused by symptoms that are present on their skins also cause an important problem in these patients (Aydemir and Sukan 2008). The treatment of psychological disorders caused by psoriasis may be more important and difficult than the treatment of physical disorders. Psychological interventions can be made to the patients with psoriasis with both psychological and educational programs. The necessity for such training programs has recently been stated (Chen *et al.* 2014).

Expressed emotion mainly covers criticism, hostility, and excessive interest and is used to

assess the emotional atmosphere of the home environment (Barrowclough *et al.* 2005). Chronic diseases can affect the whole family. While the negativities in the family relationships affect the patient negatively, the problems experienced by the patient negatively affect the family relationships. Establishing a healthy family environment will affect the prognosis of the disease positively (Öksüz 2017; Dominguez-Martinez 2017; Erol and Yazıcı 2000).

If expressed emotion is addressed as a measure of reciprocal social support, its clinical use is more comprehensive and not limited to psychiatric disorders alone. Expressed emotion is an important and powerful determinant of relapses in some psychiatric and physiological disorders. Recently many studies have revealed the relationship of expressed emotion with some diseases such as depression, obsessive compulsive disorders, bipolar disorders, attention deficit and hyperactivity disorder, epilepsy, diabetes, asthma, eating disorders, fibromyalgia apart from schizophrenia and the relationship between high expressed emotion and diseases (Öksüz 2017; Dominguez-Martinez 2017; Erol and Yazıcı 2000; Nelis *et al.* 2011; Sin *et al.* 2017; Hoste and le Grange 2008; Gartland and Day 1999; Kyriacou *et al.* 2008; Christiansen *et al.* 2010; Di Paola 2010; Hastings and Lloyd 2007; Hayta *et al.* 2016; Wearden *et al.* 2000; Sadath *et al.* 2017; Cherry *et al.* 2017; Hooley 2007; Watts 2007; Broderick *et al.* 2005). These studies gave rise to the opinion that the expressed emotion can be used effectively in clinical follow-up of diseases associated with psychiatric disorders such as psoriasis.

There are many scales to assess the quality of life of patients with psoriasis. The questions in these scales are prepared to determine the effects of illness on some aspects of daily life activities, social relationships, and sexual lives of patients. In addition, the relationship of psoriasis with depression and anxiety has been examined in the literature (Akyol *et al.* 2016; Kaçar 2007). However, there are no studies in the literature indicating whether or not patients with psoriasis are affected by the expressed emotion in the family environment. The aim of this study was to determine whether patients with psoriasis are affected by expressed emotion in their family environment.

Material and method

Case selection

Before starting the study, the necessary Ethics Committee (2008-12/3) approval was ob-

tained. Sample size estimation for the present study with 95% confidence interval was made by power analysis, and 83 healthy individuals and 62 patients, who applied to dermatology outpatient clinic, signed the informed consent form, were diagnosed histopathologically and clinically with psoriasis, and the patients' relatives with whom they were living for at least six months, they consider important in their relations, and they identified as key relatives were included in the study.

Inclusion criteria of the study

The inclusion criteria were determined as being older than 18 years, being literate, having never been diagnosed with depression and/or anxiety before for the patient group. For the control and key relative groups the inclusion criteria were determined as not having any known health problem, being older than 18 years, and being literate.

Sociodemographic data and the disease-related characteristics of the patients, the control group, and their relatives were recorded in the prepared data form. Severity of the disease in the patients with psoriasis was calculated and recorded with the Psoriasis Area and Severity Index (PASI)

Scales

Level of Expressed Emotion (LEE) scale

The Level of Expressed Emotion (LEE) scale was applied to the patients and the control group. The scores calculated for the LEE scale were recorded.

The LEE scale is a self-assessment tool developed by Cole and Kazarian (1988) to assess the emotional state between the patient and a person who is important for the patient, and to rank some characteristics of the relationship. The items are marked as true or false by considering the relationships of the patients and the person who is in the position of key relative within the last three months. It includes 60 items in total. It is composed of 15-item subscales of Intrusiveness "I", Emotional response "E", Attitude toward illness "A", and Tolerance/Expectation "T". While the subscale scores range from 0 to 15, the total score ranges from 0 to 60. The Turkish adaptation of the scale and its validity-reliability study were carried out by Berksun (1992). The higher the score, the higher the expressed emotion level of the family (Di Paola *et al.* 2010; Cole and Kazarian 1988; Erbinç *et al.* 2001).

Table 1. The distribution of age, gender, educational status, and key relatives among the groups

Demographic data		Psoriasis (n = 62)	Healthy (n = 83)	
Age (mean ±SD)*		18-75 (41.6 ±13.5)	18-60 (38.2 ±9.81)	
Gender**	Female	38 (61.3%)	44 (53.01%)	<i>p</i> > 0.05
	Male	24 (38.7%)	39 (46.9%)	
Education**	Primary	43 (69.4%)	49 (59.03%)	
	High School/University	19 (30.6%)	34 (40.96%)	
Key relative**	Spouse (wife or husband)	30 (48.4%)	53 (63.85%)	
	Parent	10 (16.1%)	15 (18.07%)	
	Adult child	22 (35.5%)	15 (18.07%)	

*Mann-Whitney *U* test, **Chi-square test

Depression and anxiety scales

Patients with psoriasis were evaluated by the psychiatry clinic for the presence of depression and anxiety using the Hamilton Depression Rating Scale (HAM-D) and Hamilton Anxiety Rating Scale (HAM-A), which have Turkish validity and reliability.

HAM-D

It is a 17-question form applied by the clinician to patients with depressive symptoms to measure the level of the depression and the severity change. The questions can be scored between 0 and 4, and the sum of them gives the actual score. The highest score is 53. It was developed by Hamilton and structured by Williams (1978). Its Turkish adaptation and validity-reliability studies were conducted by Akdemir *et al.* (1996) (Aydemir and Köroğlu 2000).

HAM-A

It is a 14-question form that is applied by the clinician to healthy or psychiatric patient groups and is used to determine the anxiety level and symptom distribution and to measure the severity change and questions both psychological and physical symptoms. While the score for each item ranges from 0 to 4, the total score for the scale ranges from 0 to 56. It was structured by Hamilton (1959). Its Turkish adaptation and validity and reliability studies were conducted by Yazıcı *et al.* (1998) (Aydemir and Köroğlu 2000).

Statistical analysis

The data of the study were evaluated by being uploaded in version 23.0 of the SPSS (Statistical Package for Social Sciences) program. The Kolmogorov-Smirnov test was applied to test the normality of the distribution of data. Accordingly, the Mann-Whitney *U* test was used

to determine the difference between the groups. For a comparison of more than two group means, one-way analysis of variance (ANOVA) was used. Chi-square test was used to determine the difference in terms of the education and key relatives in both groups. Spearman correlation analysis was used to determine the relationship between age and LEE scores. The value of *p* < 0.05 was accepted as significant.

Results

Table 1 shows the age, gender, educational status, and key relative distribution of the patients included in the study.

When psoriasis and healthy control groups were compared, it was determined that LEE_{total} scores of sub-groups I, E, and A were statistically significantly higher in the patient group compared to the healthy controls (*p* = 0.00, *p* = 0.00, *p* = 0.002, *p* = 0.00, respectively) (Fig. 1); the difference among the groups for subgroup T was statistically insignificant (*p* = 0.096).

When the patient and healthy control groups were evaluated in terms of female gender, LEE_{total} and scores of subgroups I, E, and A were found to be statistically significantly higher in the patient group compared to the healthy controls (*p* = 0.002, *p* = 0.001, *p* = 0.009, *p* = 0.002, respectively). There was no statistically significant difference between the groups in terms of subgroup T scores (*p* = 0.086).

When the patient and healthy control groups were evaluated in terms of male gender, LEE_{total} and scores of subgroup I and A were found to be statistically significantly higher in the patient group (*p* = 0.013, *p* = 0.001, *p* = 0.013, respectively). No statistically significant difference was found among the groups in terms of subgroups E and T (*p* = 0.059 and *p* = 0.709, respectively).

When the patient group was evaluated, no statistically significant difference was found

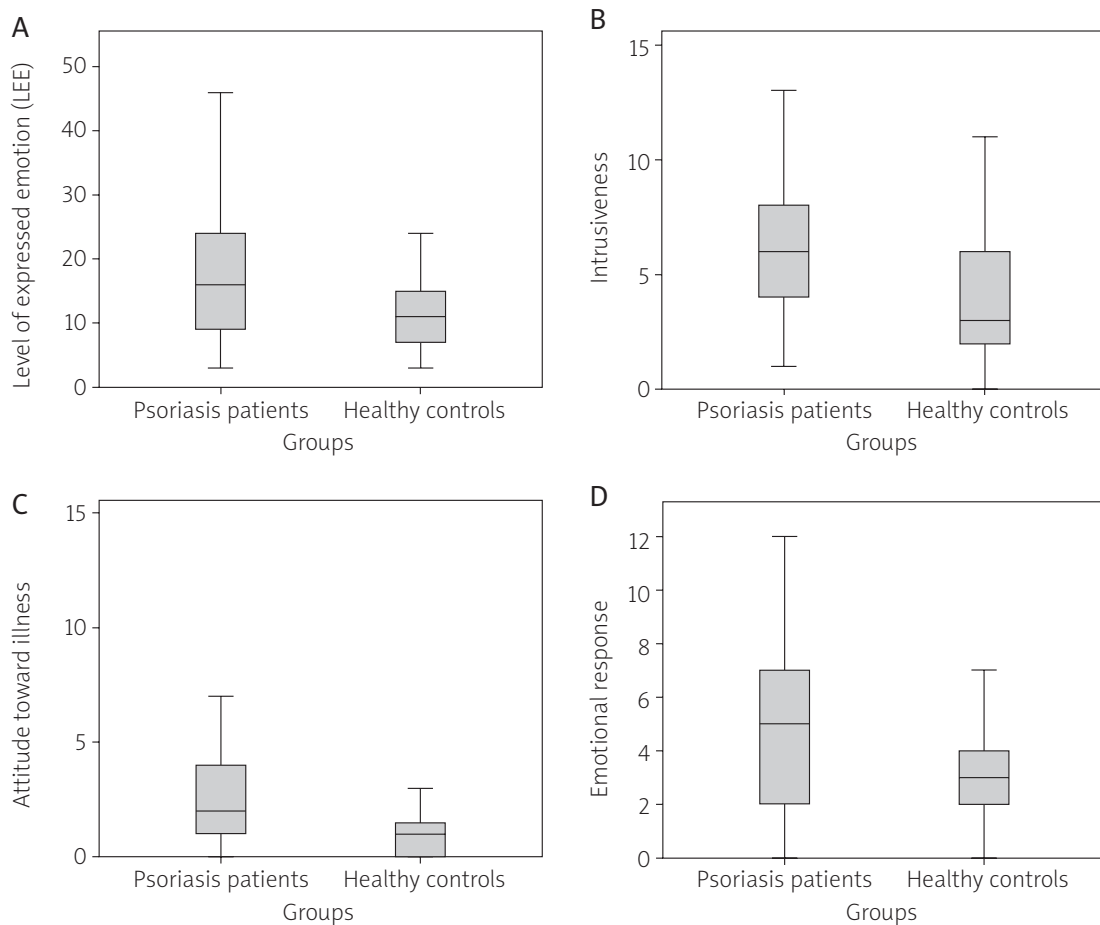


Fig. 1. Comparison of mean level of expressed emotion (A) and scores of subgroups Intrusiveness (B), Emotional response, (C) in patient and control groups, (D) and Attitude toward illness

between men and women in terms of LEE_{total} and subgroup scores ($p > 0.05$).

While there was a statistically significant and negative correlation between the age and LEE_{total} , and scores of subgroups E, A, and T in the patient group ($p = 0.01$, $r = -0.317$; $p = 0.04$, $r = -0.257$; $p = 0.03$, $r = -0.265$; $p = 0.03$, $r = -0.274$, respectively), a significant difference was not found for subgroup I ($p = 0.117$, $r = 0.201$). While there was a significant and negative correlation between age and subgroup I ($p = 0.01$, $r = -0.281$), no statistically significant correlation was observed between age and LEE_{total} and other subgroup scores in healthy controls ($p > 0.05$) (Fig. 2).

No statistically significant correlation was found between the LEE_{total} and subgroup scores and the depression and anxiety scores in the group ($p > 0.05$).

The patient group was divided into two groups according to PASI scores as mild (PASI < 10) and moderate-severe (PASI ≥ 10). When the mild and moderate-severe cases were compared in terms of LEE_{total} and subgroup scores,

no statistically significant difference was found ($p > 0.05$).

According to educational status, patients and healthy controls were examined in two groups as primary school and high school-university graduates. No statistically significant difference was found in terms of the educational level of the patient and control groups ($p = 0.22$). It was determined that the LEE_{total} ($p = 0.01$) and scores of subgroups E ($p = 0.02$), A ($p = 0.02$), and T ($p = 0.003$) of those with low educational level (primary school) in the patient group was statistically significantly higher than those with higher educational level (high school-university). No statistically significant difference was found in the scores of subgroup I ($p = 0.70$). No statistically significant difference was found between the educational level and LEE_{total} and LEE subgroups in healthy controls ($p > 0.05$).

There was no statistically significant difference in the scores of the LEE_{total} and LEE subgroups in the patient group when the key relative was a spouse or parent or an adult child ($p > 0.05$).

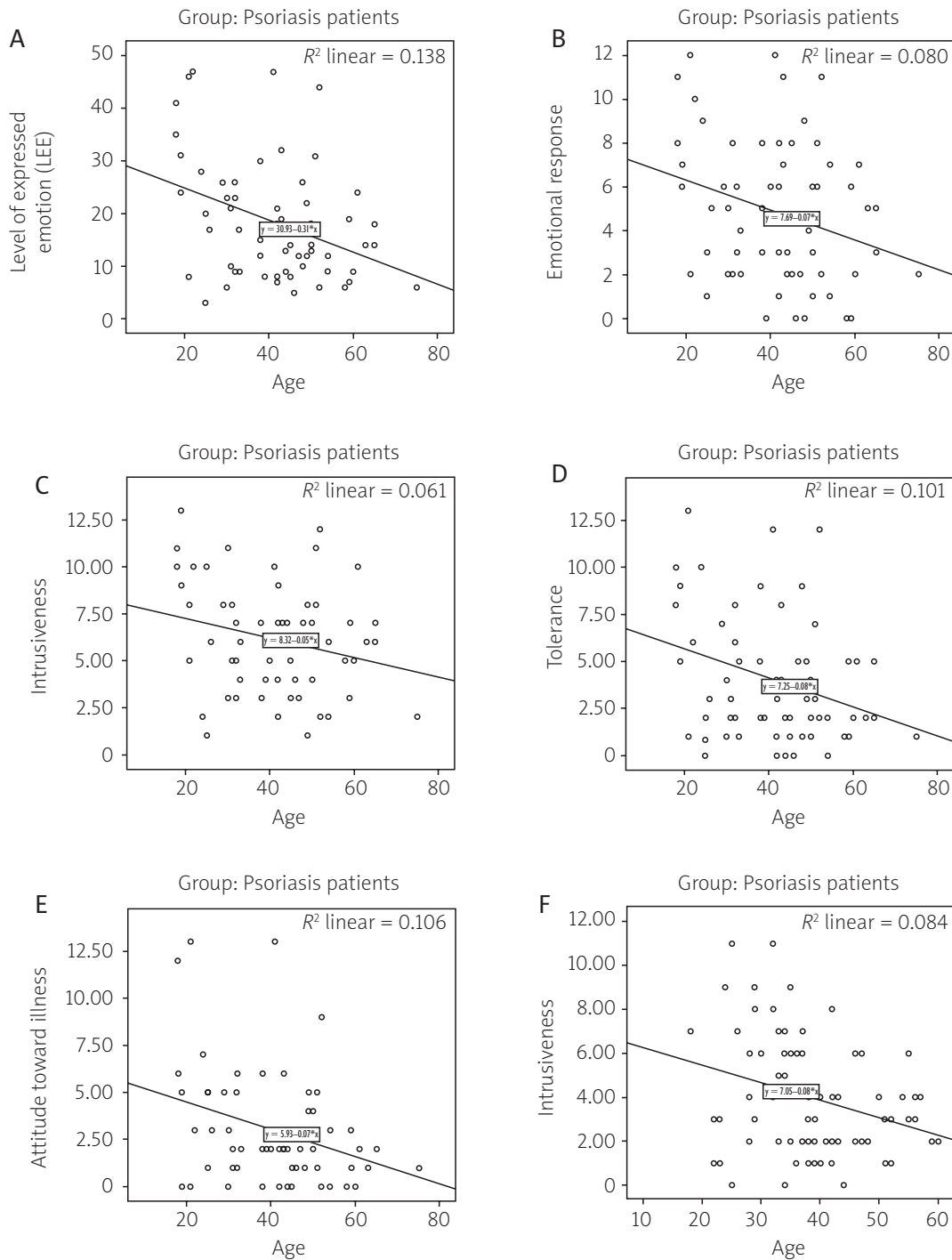


Fig. 2. Correlation between the age and LEEtotal and LEE subgroup scores in patients and healthy controls

The duration of the disease was examined in three groups as the last one year, 1-5 years, and more than 5 years in the patient group, and no statistically significant difference was found between LEE and subgroup scores ($p > 0.05$).

Discussion

It has been known for years that stress is an important factor in the onset or exacerbation

of psoriasis. Stress can be both an outcome and a trigger of psoriasis (Griffiths and Richards 2001). The fact that the disease has an uncertain development, the recurrences cannot be predicted and prevented in advance, and there is still no definite treatment causes a great deal of stress in patients with psoriasis (Kumbasar and Yılmaz 2005; Pişkin 2005; Richards *et al.* 2005). Psoriasis can contribute to the development of psychopathology by negatively affecting the body image,

self-confidence, identity, life goals, ego integrity, social, family, and environmental relations of the patient (Kumbasar and Yılmaz 2005).

Expressed emotion is evaluated as a measure of emotional quality of family life and the emotional atmosphere of the home environment (Hoste and le Grange 2008; Norman and Malla 1993). Expressed emotion is also defined as the determinant of the family's perspective and attitude toward the patient and is considered as an important factor that can affect the prognosis of the disease positively or negatively in chronic diseases (Devaramane *et al.* 2011).

Highly expressed emotion is not a static structure but a reaction style that develops over time. High expressed emotion perception can lead to constant stress in the patient (Erol and Yazıcı 2000). High expressed emotion includes high severity criticism against the patient, hostility, avoidance, or excessive emotional care (Sadath *et al.* 2017). It has been shown in the studies that expressed emotion may influence the disease in various patient groups or the current disease may affect the expressed emotion (Gartland and Day 1999; Kyriacou *et al.* 2008; Sadath *et al.* 2017).

It can be asserted that patients with psoriasis displayed a higher expression emotion than the healthy control group, but this was not associated with disease severity.

In the study by Hale *et al.* (2007), no statistically significant difference was found between the LEE_{total} scores and age and gender. In another study, even though LEE_{total} scores of women were found to be slightly higher than LEE_{total} scores of men, the difference between the genders was not found to be statistically significant. In the same study, no statistically significant difference was found between the ages (Gerlesma *et al.* 1992). It was concluded from the results of both studies that age and gender did not affect the LEE_{total} score in both adults and adolescents (Hale *et al.* 2007; Gerlesma *et al.* 1992). In the present study, it was found that gender did not affect expressed emotion in the patient group, but age showed a negative correlation. Recent studies have shown that women report more physical disorders in many diseases and give lower quality of life scores. It has been seen that women identify more pain, illness symptoms, and psychological problems (Sampogna *et al.* 2006; Wolkenstein 2006). In the study conducted by Sampogna *et al.* (2006), in which psoriasis patients were classified as below or over 65 years of age, they reported that anxiety and depression were seen more often in elderly women, their life quality was worse, and this

was associated with the fact that women had higher body perceptions and regarded their appearance more than men. In addition, it was also reported that its effect on the quality of life in patients with psoriasis decreased with age. It was shown that the elderly were highly affected by psoriasis physically and young people were affected more psychosocially by the disease (Wolkenstein 2006). In the present study, it was also observed that expressed emotion decreased with increased age in the patients. Additionally, intrusiveness also decreased with increased age in our healthy group. The learning and acceptance of the basic characteristics of the disease, such as clinical picture and treatment outcomes, by patients and other family members over time, can be considered as the reasons for this decrease.

According to the results of the present study, patients with psoriasis perceived high expressed emotion in both genders. Being male or female did not affect the expressed emotion perception. Nevertheless, while women perceived their families as being intrusive, overreactive, and having negative attitudes towards their illness in the case of disease, the perception in men focused on interventionism. The defined roles of males and females in society can be a reason for the difference in subgroups in terms of expressed emotion.

It was reported in the studies that increased educational level affected the expressed emotion positively by decreasing stress about the disease, easing coping with stress, and perceiving the chronic illness as a part of everyday life in different patient groups (Wolkenstein 2006; Honig *et al.* 1997; Uehara *et al.* 2001). According to our results, the low educational level led to a higher level of expressed emotion. When subgroups were evaluated, those with low educational levels had overreactive, negative attitudes towards disease, intolerance, and high expectation perception. Lower expressed emotion can be associated with the fact that the group with high educational level had more knowledge and comprehension about the disease-related issues such as knowing that the disease is contagious, and usage of the medications at correct time and dose.

In the present study, the family member with the primary interaction of the patient was selected as the key relative, and the key relationship status did not affect the expressed emotion.

In the study conducted by Hale *et al.* (2007), with paediatric patients and their parents, they found a correlation between the LEE scores of the patients with their depression and anxiety scores. The results of our study showed that the

presence of anxiety or depression did not affect the expressed emotion in adult psoriasis patients.

Limitations of the present study are that a general assessment of intra-family relationships was not conducted, and the relationship between expressed emotions, which is a dynamic measure with the disease relapse, was not evaluated. For this purpose, a prospective dynamic study is required.

Consequently, the effect of the family environment on the individuals living in the family like other social environments is known. Because psoriasis is a chronic disease it can affect the intra-family relationships of the person, and the disease itself can be affected by family interaction. It can be asserted that the expressed emotion in patients with psoriasis is due to the physical lesions triggered by emotional stresses. Family environment should be considered carefully, especially for patients with psoriasis, who are young or have low educational level. It should be kept in mind that family conflicts may cause an adverse effect on the course of the disease, as a constant source of stress. Expressed emotion is high in psoriasis. Therefore, the LEE scale should be used in evaluating the family environment, and patient-family interaction of psoriasis patients and psychosocial support should be provided in cases with high expressed emotion.

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