

## EVALUATION OF EMOTIONAL CHANGES IN THE MOTHERS OF PATIENTS WHO HAVE A DIAGNOSIS of FAMILIAL MEDITERRANEAN FEVER

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### ABSTRACT

**Aim:** The chronic diseases of childhood affect significantly on those who take care of them. Mostly this is the duty of mothers. Mothers are the primary caretakers, so they may have psychological problems. There are limited numbers of studies on the depression of mothers who take care of the children with Familial Mediterranean Fever. Aim of the study was to investigate depression levels and factors related to depression in mothers of children with Familial Mediterranean Fever.

**Material and Methods:** The mothers of children diagnosed with Familial Mediterranean fever, aged between 24 and 54 years, educated and voluntarily wanted to join the research were selected (n:53). Socio-demographic and clinic data form and Beck Depression Inventory form were given to them.

**Results:** The mean Beck Depression Inventory score was  $16.3 \pm 6.8$ . According to the classification of Beck Depression Inventory, 35.8% of mothers had minimal depression, 32.1% had mild, 26.4% had moderate and 5.7% had severe depression. A weak positive relationship was found between the Beck Depression Inventory score and the numbers of child in the family. The mean attack of Familial Mediterranean Fever in the last year was statistically and significantly high in those mothers who were depressed than who were not.

**Conclusion:** The level of depression in the mothers of children diagnosed with Familial Mediterranean Fever was close to the cut-off point of Turkish standards (17 points). The severity of the Familial Mediterranean Fever and the depression of the mothers were having a parallel relationship. Children of depressed mothers were having more Familial Mediterranean fever episodes.

**Key words:** Familial Mediterranean Fever–Mother–Beck Depression Scale–Child

### 1 INTRODUCTION

Familial Mediterranean Fever (FMF) is a chronic clinical picture characterized by episodes of acute fever accompanied by complaints of abdominal pain, chest pain or joint pain. Familial Mediterranean Fever is character-

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ized by autoantibodies and autoreactive T-lymphocytes, which are caused by a defect in natural immunity, while there is no cause of infection. The disease is an autoimmune, chronic and childhood disease that affects some ethnic groups (Sephardic Jews, Armenians, Turks, Arabs) living on the Eastern Mediterranean coast [1–3].

Chronic disease is defined as a clinical condition having residual properties that cannot be provided with long-term complete cure, with a need for special assistance or adaptation to daily life functions [4]. Childhood chronic diseases affect not only the children with chronic diseases but also other family members [5]. The impact of childhood chronic diseases on parents and other family members can directly affect the physical and mental health of children with chronic diseases [6].

The number of studies evaluating the degree of psychological distress in the parents of children followed up with the diagnosis of FMF is limited. The aim of our study was to determine the severity and levels of depression in mothers of children followed up with the diagnosis of FMF and to investigate the effects of sociodemographical and clinical features on the presence and intensity of depression in mothers.

## 2 MATERIAL AND METHOD

Ethics committee approval was obtained from the Okmeydanı Training and Research Hospital Clinical Trials Ethics Committee (date:03.02.2015 and number:274). The sample of this study consisted of 53 women, the mothers of FMF patients, who applied to the Pediatrics Outpatient Clinic of the Okmeydanı Training and Research Hospital between February 5, 2015 and May 5, 2015. The study included individuals aged 24-54 years who were literate and volunteered to participate in the study. Sociodemographic and Clinical Data Form and Beck Depression Inventory (BDI), which were filled by the researcher, were given to all mothers.

BDI is a scale developed by Beck [7]. It is a 21-item self-assessment scale that quantitatively measures depressive symptoms perceived by the patient in the vegetative, emotional, cognitive and motivational areas of depression. It was suggested that those who scored 17 and above in the BDI could constitute a risk group.

Statistical Analyses: All data were analyzed using Social Statistical Packages for the Social Science (SPSS) 15.0 statistical program. As descriptive statistics; for categorical variables, number and percentage and for numerical variables mean, standard deviation, minimum and maximum were given. For the comparison of numerical data of independent two groups, Student t test was performed if the data was normally distributing and Mann Whitney U test was performed when the normal distribution condition was not satisfied. The ratios of the categorical variables between the groups were tested by Chi-Square Analysis. Monte Carlo simulation was applied when conditions could not be provided. Pearson Correlation Analysis was investigated by Spearman Correlation Analysis when the parametric test

condition was provided.  $p < 0.05$  was considered statistically significant.

## 3 RESULTS

A total of 53 mothers of children with FMF (27 female and 26 male) having a mean age of  $9.3 \pm 3.5$  years were included in the study. The mean age of the children at the time of diagnosis was  $6.2 \pm 3.4$  years. The average number of attacks in the last year was  $5.4 \pm 4.3$ . The mean colchicum dose was  $1.9 \pm 0.6$  tb per day, and the mean colchicum usage time was  $3.1 \pm 2.1$  years (Table 1).

The mean age of the mothers of the children was  $35.8 \pm 6.1$  years; the mean age of mother education was  $8.0 \pm 2.7$  years. Among mothers 77.4% were housewives and 22.6% were working. The mean age of the fathers was  $39.7 \pm 6.7$  years and the mean education year was  $8.0 \pm 2.5$  years (Table 2) The rate of children with Familial Mediterranean Fever with a family history was 26.4% and the ratio of FMF patients without a family history was 43.4% .

The mean Beck Depression Inventory (BDI) score of the mothers was  $16.3 \pm 6.8$ , with minimum and maximum points of 5 and 31, respectively. According to the Beck Depression Inventory classification, the rate of mothers with minimal depression was 35.8%, the rate of mothers with mild depression was 32.1%, the rate of mothers with moderate clinical depression was 26.4% and the rate of mothers with severe depression was 5.7% (Table 3).

According to the BDI score, the mean number of exacerbations of the children of the mothers with depression in the last year was statistically significantly higher than the mean number of exacerbations of the children of the mothers without depression ( $6.6 \pm 3.9$  vs  $4.7 \pm 4.4$ , respectively;  $p = 0.022$ ). There was no statistically significant difference between the children of mothers with and without depression in terms of age, age of diagnosis, colchicum dose and duration of colchicum usage ( $p > 0.05$ ).

## 4 DISCUSSION

Chronic diseases of childhood are increasing and we are facing a major health problem in many countries of the world. It has been reported that about 15-50% of children under 18 years of age experience chronic health problems and 10-20% of them have severe problems [8–11].

Childhood chronic diseases are a source of potential psychological distress, and the awareness that the treatment of the child should not be carried out only with medical treatments, and that psychosocial and psychopharmacological treatment interventions of the patient and his family should be evaluated as well as the standard medical treatment [12]. Therefore, in the last decade, researches have been increasing in terms of quality of life and health perception among children with chronic diseases and how other family members are affected by disease and treatment of disease [5]. The impact of childhood chronic disease on other

family members, including parents, is important in two respects. First, parents with significant emotional distress can directly affect the results of a child's chronic disease. Second, the parent has positive effects on the adaptation of the child to chronic disease [6].

There are many studies in the literature showing that the number of psychological distress / depression among adult caregivers is higher than the general population. These studies have focused on caregivers of cancer patients in particular. In a review, it has been reported that the rate of depression in spouses of cancer patients is between 20 and 30% [13]. This high rate of depression was associated with depletion caused by the care of the patient [14]. The risk of depression in caregivers of cancer patients was found to be approximately 50% [15]. The frequency of depression and other psychiatric disorders in caregivers of dementia patients was found to be 35% [16].

In one study, it was found that the parents of children with chronic diseases had lower quality of life and higher levels of anxiety and depression [17]. In another study, it was found that the parents of children with chronic diseases had higher depression and anxiety scores than the parents of healthy children [18].

The parents of children with chronic illness whether having a life-threatening disease or not, may have different psychological responses to the illnesses and their consequences. It has been reported that parents who face life-threatening situations about their children are more adversely affected by psychosocial functioning than other parents; and relatively severe psychiatric disorders such as post-traumatic stress disorder may develop in those parents [19].

In the literature, there are very few studies evaluating the psychological distress level in the parents of children followed up with a diagnosis of FMF. In a study of parents of FMF patients, the quality of life of the parents of children with FMF was found to be lower than the quality of life of the parents of healthy children. Depression levels of parents of children with FMF have been shown to be higher than those of parents of healthy children [20]. Our results showed that when the mothers of the children followed up with the diagnosis of FMF were classified according to the severity of depression assessed by BDI, approximately 2/3 of the mothers were included in the mild, moderate or severe clinical depression group, and the mean score of the mothers was approximately 16. In the Turkish validity study of the BDI, 17 points were accepted as a cut-off point for the diagnosis of depression [21] and the average value we found in our study was very close to this value.

In conclusion, it can be said that the mothers of children followed up with the diagnosis of FMF are at risk for depression. Since the familial Mediterranean fever is a chronic disease, we think that it is essential to give the required psychological support to the sick child and parents in the future.

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**Table 1. Sociodemographic and disease characteristics of children**

Age (years) mean ±SD (min-max)	9.3±3.5 (3-16)
Gender n (%)	27 (50.9)
Female	26 (49.1)
Male	
Age at the time of diagnosis mean ±SD (min-max)	6.2±3.4 (2-14)
Number of attacks in last year mean ±SD (min-max)	5.4±4.3 (1-25)
Daily colchicum dose (number of tablets) mean ±SD (min-max)	1.9±0.6 (1-4)
Time of colchicum usage (years) mean ±SD (min-max)	3.1±2.1 (1-11)

**Table 2. Sociodemographic and clinical characteristics of families**

Mother age (years) mean ±SD (min-max)	35.8±6.1 (25-54)
Mother education (years) mean ±SD (min-max)	8.0±2.7 (5-13)
Mother working status	41 (77.4)
Housewife	12 (22.6)
Working	
Father age (years) mean ±SD (min-max)	39.7±6.7 (30-65)
Father education (years) mean ±SD (min-max)	8.0±2.5 (5-13)

**Table 3. Depression severity distributions of mothers according to Beck depression inventory mean scores and classification**

BECK score mean ±SD (min-max)	16.3±6.8 (5-31)
BECK score	n (%)
Minimal depression (0-13 points)	19 (35.8)
Mild depressive symptoms (14-19 points)	17 (32.1)
Moderate clinical depression (20-28 points)	14 (26.4)
Severe depressive symptoms (29-63 points)	3 (5.7)

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