Family Functioning in Adult and Child Asthmatics

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Abstract

Objectives: To evaluate the impact of asthma on social and familial behavior in adult and child asthmatics.
Materials and Methods: Twenty adult and 20 child asthmatics and one member of their families filled out the "Level of Expressed Emotion (LEE)" and "Family Assessment Device (FAD)" questionnaires. Family members (FM) also filled out the "Social Functioning Scale (SFS)" form. Comparisons were made between child-adult patient group and patient-family member data. The statistical analyses were done by student's t test.
Results: In the comparison of the child and adult patients, LEE scores were higher in adults. Among FAD subscales; affective involvement of the patient, affective involvement of the FM and affective responsiveness of the FM were higher in the child group. Of SFS subscales; interpersonal functioning and independence subscales were significantly lower in children. The comparison of the patient and FMs showed no difference between the patient and FMs in "LEE" and "FAD" in the children group. LEE score in adults was higher in patients than in the FM. No difference was found between the patient and FMs in FAD scores in the adult group.
Conclusions: Concerning the psychosocial characteristics of asthma, perception of the patient and that of the family differed in many aspects. There were also differences between child and adult asthma groups. This study shows that education programs in asthma management should also cover the relatives of the patients.

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Introduction

Chronic illnesses like asthma frequently lead to a decline in physical and psychosocial functioning. The incidence and mortality of asthma are rising, as well as the number of families who are affected with this disease. Good communication with family members and understanding them are important points in the management of asthma (1).

Family influences and family views may differ in adult and child asthmatics. This study was designed to evaluate the impact of asthma disease on the social behavior of adult and child asthmatics and their families.

Materials and Methods

Twenty adult and 20 child asthmatics and one member of their respective families were asked to fill out questionnaires entitled

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"Level of Expressed Emotion (LEE)" and "Family Assessment Device (FAD)" (1,2). In the pediatric patients, the family member who filled out the questionnaire was one of the parents selected according to the patient's preference. In the adults, this person was the husband or wife.

FAD aims to get full information about different aspects of the family directly from family members. This device is designed to differentiate the structural and organized features of the family as healthy or not. It has been developed by Brown University and Butler Hospital in the USA. This is a self-reporting scale evaluating the familial functions according to to their own perception. It has 7 sub scales listed as problem solving, communication, roles, affective responsiveness, affective involvement, behavior control and general functions. The mean score for each sub group is calculated and 7 sub scale scores are obtained for each member. The differentiating cut-off score is 2. A score over 2 is accepted to reflect a tendency to unhealthiness in family functions. The Turkish validation of the device has been made by Bulut (3).

The LEE method has been developed by Cole and Kazariaan (4). This scale evaluates the attitudes of family members towards the patient. It has 4 subscales; interference, emotional reaction, attitude towards disease and tolerance/expectation. The Turkish validation has been made by Berksun (5).

In addition, family members were also asked to fill out the "Social Functioning Scale (SFS)" (1,2). SFS is designed to evaluate functional areas. These areas are important in the social adaptation of patients. This scale also has 5 subscales as: social work/social withdraws, interpersonal functioning, primary social activities, hobbies, and independence. The high scores obtained from each subscale indicate a positive attitude in functioning. The validation of this scale has been made by Erakay (6).

Evaluation was done by comparing the results of child and adult patient groups and also those of the patients and family members. The statistical analyses were done by student's t test.

Results

Twenty adult asthmatics with a mean age of 43.70±10.44 years and 20 child asthmatics with a mean age of 12.30±2.73 years were enrolled in the study. Twelve of the adults (60%) and 15 of the children (75%) were females. All asthmatics in both groups had chronic mild persistent asthma classified according to GINA 2002 (7).

Fifteen (75%) of the children were in elementary and 5 (25%) were in high school. Three (15%) of the adults were barely literate while 10 (50%) were graduates of primary schools and 7 (35%) were high school and university. Graduates.

In the adults group, 18 (90%) of the families were nuclear families. This ratio was 16 (80%) in of the pediatric group. All families were of moderate socioeconomic status.

These socioeconomic and cultural features are known to have no impact on the devices used.

Comparison of child and adult patients

The scores obtained from each of 3 scales were compared between child and adult patient groups. The statistically significant differences in the scales or subscales are given below:

Level of Expressed Emotion (LEE) (scores expressing the views of family members)

The scores of family members of child patients (16.89±4.12) were smaller compared to the scores of family members of adult patients (20.70±11.75) (p=0.001). The family members of child patients did not express their emotions as well as the family members in the adult group.

Family Assessment Device (FAD) scores

The comparisons of the FAD scores are shown in Tables 1 and 2.

Affective involvement of the patient included his thoughts about his family's affective involvement. Adults were satisfied with the affective involvement of their family but children were not.

Table 1. FAD scores comparing child and adult patients

	Child patient (mean ± SD)	Adult patient (mean ± SD)	p values
Problem solving	1.63±0.39	1.52±0.56	0.48
Communication	1.89±0.56	1.73±0.54	0.38
Roles	1.92±0.47	1.76±0.45	0.28
Affective responsiveness	1.86±0.55	1.74±0.66	0.54
Affective involvement	2.20±0.55	1.88±0.41	0.04*
Behavior control	1.82±0.36	1.72±0.46	0.45
General functions	1.77±0.48	1.66±0.61	0.51

* Statistically significant

Table 2. FAD scores comparing child and adult patients' family members

	Child patient (mean ± SD)	Adult patient (mean ± SD)	p values
Problem solving	1.65±0.41	1.48±0.41	0.21
Communication	1.90±0.52	1.62±0.50	0.94
Roles	1.88±0.51	1.75±0.33	0.35
Affective responsiveness	1.86±0.45	1.51±0.39	0.01*
Affective involvement	2.02±0.48	1.68±0.37	0.01*
Behavior control	1.84±0.33	1.68±0.37	0.15
General functions	1.72±0.39	1.51±0.41	0.10

* Statistically significant

Affective involvement of the family member included their thoughts about their family's affective involvement. The results were correlated with those obtained on patients (given above). The scores of adult families with respect to minding the problems of family members, sharing decisions, expressing emotions such as tolerance, love, and tenderness were better than those of the children's families.

Affective responsiveness of the family members included their thoughts about their family's affective responsiveness. Family members of child patients perceive the potential of affective responsiveness of their families better than the family members of adult patients.

Social Functioning Scale scores

The questionnaire included questions to the members of the family about the patient's characteristic social functions such as sharing his and his friends' problems and looking for solutions. The comparisons of the SFS scores are shown in Table 3.

Table 3. SFS scores comparing child and adult patients

	Child patient (mean±SD)	Adult patient (mean±SD)	p values
Social withdrawing	9.47±2.06	10.00±2.10	0.43
Interpersonal functioning	17.00±3.47	21.40±7.67	0.02*
Primary social activities	17.65±7.84	19.85±8.04	0.38
Hobbies	17.95±5.76	18.75±4.59	0.63
Independence	17.85±4.33	23.20±4.65	0.001*

* Statistically significant

Among the 5 subscales in SFS, the interpersonal functioning subscale was significantly different between adult and child groups (Child: 17.00±3.47 < Adult: 21.40±7.67 -p=0.025). The values were lower in children.

Independence scores were significantly higher in the adult group (Child: 17.85±4.33 < Adult 23.20±4.65 -p=0.001). This is probably a result of age difference between the two groups. But also it can be speculated that family of sick child could be more protective and so the child could be less independent.

Comparison of scores obtained on patients and on family members

No difference was found between the scores obtained in the "LEE" and "FAD" questionnaires on patients and on family members in the children group (p>0.05).

Results of the "LEE" questionnaire in the adult group showed that the perceptions of emotional expression differed between patients and family members (Adult patient: 20.70±14.20 > Family member: 14.20±4.39 -p=0.02).

No difference was found between adult patients and their family members in "FAD" scores (p>0.05).

Discussion

As the number of patients who survive chronic illnesses increases, so does the incidence of psychological problems in adult patients and particularly in child patients. Multiple hospitalizations, attachment problems, traumatic medical procedures have all been cited as risk factors for the development of significant psychological sequelae from chronic illnesses. The role of the family in preventing or enhancing the likelihood of psychopathology is another major variable affecting the patients' psychological outcome. How the family copes with a disease may be a very important factor in how the patient deals with the disease and this may differ in adults and children (1).

Symptom perception and evaluation in childhood asthma is a unique challenge. Since the child's perception and communication of the symptoms may not always be effective, the parents rely on various signs to evaluate the severity of symptoms. Some previous studies showed that parents' perception of the child's airway obstruction could be inaccurate and affected by a number of factors including age, illness severity and various demographic, psychological and social factors (8).

The results of our study concerning the psychosocial characteristics of asthma disease, showed that the perception of the patient and that of the family differed in many aspects.

It was found that the family members of the child patients did not express their emotions as well as those of the family members of the adult group. This difference could be explained by the fact that families of the children express their emotions less than adult families so as not to affect their children and to protect them. Family members of the adult patients share their feelings with the patient more easily.

In a study of Perrin (9), coping and adjustment in asthmatic children reflect many complex procedures that are influenced by a number of characteristics of the child such as self-esteem, intellectual functioning and understanding of illness, and those of the family such as communication style, coping practices. Availability of support systems is another influencing variable. This study showed that most children with asthma cope well, but parents' perceptions do not entirely coincide with objective measurements, and also parents' impressions and expectations can influence the child's response to illness in a variety of ways. This result and the protective parental habit seen in our study might have a deteriorating effect on overall management of asthma in children.

Our results relating to FAD in the child patients showed that scores for parameters of affective involvement were worse compared to other parameters in both patients and family members. This could be due to the fact that adults are able to undertake their own responsibilities because of their age and their disease is not considered as a problem in the family but this was not the same for children as this chronic illness still seems to be a problem in the family. Children with chronic illnesses have approximately twice the rate of significant

psychological adjustment problems compared with children without illness (9). It was also reported that the frequency and extent of problems in psychological adjustment have little or no relationship to the severity of the illness (9). All cases in our study had mild asthma so we are not able to make any comments on the correlation of the problems to disease severity.

In social functioning scale, the lower values of interpersonal functioning obtained in children are thought to be related with age. The parents might have overprotective behavior limiting the social functions of their children because of their fears related to disease.

Mackenbach (10) speculated that factors other than the characteristics of the underlying disease, namely, medical interventions, social interventions, health education, and psychological interventions are important in influencing levels and changes of functioning.

According to Sawyer (11) the extent to which asthma symptoms upset and bother children varies on the level of functioning of the children's' families. Treatment approaches designed to improve family functioning may reduce the extent to which children are bothered by their asthma symptoms.

In our study, the comparison of the child patients and their family members, showed no differences in level of functioning. But in the adult group the perception of expression of emotions showed differences between patients and their families. Bihun (12) who also used FAD for evaluation, reported that the scores showed a good correlation between mothers and children in young age group but this correlation was poorer in older children. Our results are in agreement with this report. These results could be explained in two ways; that the emotional expression of the family member might be higher than that of the patient, or that the family member might not be behaving in a way that the patient hoped. Patients are more sensitive about their disease and want their relatives to be more controlled in their emotions. Patients were not satisfied with the affective responsiveness of their relatives while the family members did not share this view.

Chronic illness creates stresses both in the patient and in the family. This is more significant in childhood. As emphasized in GINA report (7), the ability of children with asthma, their parents and their physicians to create a positive partnership or treatment alliance appears to have an important role in optimal asthma management. Interventions related to family management of asthma should be included in the care of these patients. Such interventions include assessing family perceptions and coping abilities, encouraging expression of feelings and concerns, educating the child and the family about the disease and condition management, supporting positive coping behaviors and securing resources to help families manage the condition (13).

In conclusion, this study on the physcosocial characteristics of asthma disease showed that the perception of the patient and the family differed in many aspects and also that there were differences in psychosocial characteristics between child and adult asthma. Patient education is the primary step of asthma management. The results of this study show that education programs should cover the relatives of the patients as well as.

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