

IMPROVEMENT OF PSYCHOLOGICAL SYMPTOMS WITH THE TREATMENT OF ASTHMA

Fatma Fidan¹, Mehmet Ünlü¹, Murat Sezer¹, Ömer Geçici², Murat Hemül²

Afyon Kocatepe University School of Medicine, Departments of Chest Diseases¹ and Psychiatry², Afyon, Turkey

Aim: To evaluate the psychological status of patients with currently diagnosed asthma at the time of diagnosis and in the follow-up after the inhaled steroid treatment is initiated.

Methods: Patients with mild and moderate persistent asthma were accepted to the study. Patients with a previous history of psychiatric disease were excluded. Symptom Check List-90-Revised (SCL-90-R) test was performed to currently diagnosed asthma patients. SCL-90-R test was repeated 3 and 6 months after the treatment was initiated. Evaluating the test, global severity index and symptom sub-indices (somatization, obsessive-compulsive signs, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism) were obtained.

Results: Twenty five female and 5 male patients were accepted to the study. Mean age was 41.2±15.1 years. There was a significant decrease in global severity index in the 6th month according to the basal values. Significant decrease in the scores for depression, anxiety, paranoid ideation in the third month (p=0.046, p=0.047, p=0.047 respectively) and for somatization (p=0.012), obsessive-compulsive signs (p=0.037), depression (p=0.001), anxiety (p=0.003), hostility (p=0.021), paranoid ideation (p=0.003) was obtained in the 6th month according to the basal values.

Conclusion: Asthma treatment improves psychological status of the patients with bronchial asthma. This was considered to be related with the relief of the symptoms of asthma.

Keywords: Psychological status, asthma, treatment

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INTRODUCTION

Asthma is still one of the most frequently reported chronic respiratory disorders, although if managed effectively most patients can be helped to keep their normal life. The disease is characterized by sudden and unexpected attacks of shortness of breath, thus asthma attacks are a constant threat for the patients. This threat, either real or anticipated, is accompanied by anxiety. The knowledge that asthma attacks are potentially life threatening can also intensify anxiety (1). Butz and Alexander (2) reported that two-thirds of patients with asthma are anxious during an acute asthma attack. Anxiety and depression are closely related to asthma (3). Estimates of psychopathology in severe asthmatics range from 30% to 63% (4,5).

Exposure to stress and strong emotions can make asthma worse, while having asthma can give patient an increased vulnerability towards the development of anxiety disorders (6). Whether these high rates of depression and anxiety observed in patients with asthma are due to the consequence of the disease only or there is also a genetic link between asthma and psychiatric disorders is controversial (5). A high level of anxiety and marked emotional imbalance is characteristically observed in patients with asthma (7). Depression and anxiety were shown to be risk factors for the increase in morbidity and mortality of asthma (3). In our study, we aimed to evaluate the psychological status of patients with currently diagnosed asthma at the time of diagnosis and in the follow-up after the inhaled steroid

Correspondence: Fatma Fidan
Address: Hattat Karahisar Mah. 4.sokak Kaya Apt D:7
Afyon, Turkey
Tel: 902722143355-158, Fax: 902722144996
E-mail: drffidan@yahoo.com

Table 1. Global severity index and symptom sub-indices at basal, 3rd and 6th months according to SCL-90-R test

	Basal	3rd month	6th month	p*	p**
Somatization	1.57±0.75	1.46±0.91	1.11±0.76	0.247	0.012
Obsessive-compulsive	1.41±0.91	1.22±0.91	1.05±0.96	0.279	0.037
Interpersonal sensitivity	1.09±0.82	0.93±0.87	0.65±0.58	0.199	0.001
Depression	1.28±0.81	1.02±0.87	0.75±0.73	0.046	0.001
Anxiety	1.11±0.75	0.80±0.66	0.64±0.63	0.007	0.003
Hostility	0.95±0.76	0.93±0.97	0.62±0.67	0.118	0.021
Fobic anxiety	0.71±0.69	0.52±0.55	0.46±0.59	0.166	0.053
Paranoid ideation	1.05±0.82	0.85±0.81	0.65±0.73	0.047	0.003
Psychoticism	0.66±0.52	0.55±0.68	0.48±0.59	0.205	0.061
Additional scales	1.12±0.72	0.80±0.78	0.57±0.60	0.027	0.002
Global severity index	1.05±0.65	0.93±0.73	0.74±0.58	0.101	0.003

*comparison between basal and 3th month scores, **comparison between basal and 6th month scores

treatment is initiated, using the Symptom Check-List-90-Revised (SCL-90-R) test (8,9).

MATERIALS AND METHODS

Mild and moderate persistent asthma patients newly diagnosed were accepted to the study. Patients with a previous history of psychiatric disease and those with an acute asthma attack were excluded. Twelve patients whose symptoms could not be controlled at the end of one month and underwent a change in treatment regimen, and those who did not come to regular controls were rejected from the study. Thirty regularly controlled patients accepted to the study and inhaled steroids with or without beta-2-agonists according to the stage of their disease were initiated.

SCL-90-R test was performed at the time of diagnosis, and 3 and 6 months after the treatment was initiated to evaluate the psychological symptoms. In the SCL-90-R, subjects rated the 90 symptoms of distress on a 5-step Likert-scale with 0 being 'not at all' and 4 being 'extremely'. Subjects were instructed to indicate the amount they were bothered by each of the symptoms during the preceding week. The statements were assigned to 9 dimensions or factors (F) reflecting various types of psychopathology: (F1) somatization, (F2) obsessive-compulsive signs, (F3) interpersonal sensitivity, (F4) depression, (F5) anxiety, (F6) hostility, (F7) phobic anxiety, (F8) paranoid ideation and (F9) psychoticism. The Global Severity Index (GSI), that registers the severity of all answered statements as the average depth of impairment, reflects the degree of symptomatology.

Statistical analysis was made using computerized statistical procedure for social

sciences (SPSS Inc., Chicago, USA) 10.0 package program and expressed as mean±S.D. Basal SCL-90-R scores and scores at 3rd and 6th month of the treatment were compared using Wilcoxon test. A p-value less than 0.05 was considered statistically significant.

RESULTS

The mean age of 25 (83.3%) female and 5 (16.7%) male patients was 41.2±15.1 years. Nine (30%) patients were received inhaled steroids (budesonide) and 21 patients were received combined therapy (budesonide+formoterol or fluticasone+salmeterol). At the end of 1 month, respiratory symptoms of the patients were taken under control.

Evaluating the SCL-90-R test, there were no significant differences between basal and 3rd month scores in global severity index, whereas there is a significant decrease in the 6th month according to the basal values (p=0.101 and p=0.03, respectively). Compared with the basal values depression, anxiety and paranoid ideation scores (p=0.046, p=0.047, p=0.047, respectively) were decreased significantly in the 3rd month of the treatment. At the end of 6 months there was a significant decrease in somatization, obsessive-compulsive signs, depression, anxiety, hostility and paranoid ideation scores (p=0.012, p=0.037, p=0.001, p=0.003, p=0.021 and p=0.003, respectively) (Table 1).

DISCUSSION

The association between asthma and psychological factors has been observed for centuries (4,10,11). Psychiatric morbidity has been examined for all levels of severity of asthma in both adults and children, and psychiatric disorder rates have been reported to be higher than the nonasthmatic population

(12,13). Co-morbid psychiatric disorders have been linked to more severe asthma, prolonged hospitalization and increased use of steroids (14,15).

It is well documented that psychological and respiratory symptoms can be interrelated. Asthma patients with abnormal psychological status (anxiety, depression, hate or cognitive disorders) complain more frequently from respiratory symptoms (cough, phlegm, wheeze and dyspnea) (16). Frequent admissions to hospital, inability to work and limitations in other activities often lead to behavioral problems indicative of psychiatric morbidity (17).

Cluley et al. (11) evaluated psychiatric disorders in patients with asthma using hospital anxiety-depression scale and found psychiatric disorders in 46% of the patients. The population most at risk - those who were poorly controlled and poorly adherent to their medication and those who dropped out from clinic and/or the study - had the highest psychiatric morbidity. The group with severe asthma but good adherence showed a level of psychiatric morbidity inbetween the highest and lowest levels. In another study 26 patients (68.5%) reported symptoms of anxiety and 25 (65.8%) patients reported symptoms of depression (18)

In a study, Fritz et al. (19) found a significant difference in FEV₁ and FEV₁/FVC values between asthma patients with and without depressive symptoms, and suggested that this may be associated with a common biological pathway between asthma and depression. There are many studies suggesting that treatment of depression and anxiety in patients with asthma improve control of the disease (20,21).

The Symptom Checklist-90-Revised (SCL-90-R) is a self-report symptom inventory. It is a measure of current psychological symptom status with a time reference of the past 7 days including today. To our knowledge, the SCL-90-R test was not used previously to evaluate the psychological status of patients with asthma. In the previous studies psychological status of patients with asthma were evaluated with a variety of tests but the changes in the psychological status of patients with currently diagnosed asthma after the treatment have not been studied. In our study psychological status of currently diagnosed asthma patients was evaluated at basal, 3rd and 6th month of the treatment using SCL-90-R test. According to this test, there were no significant differences between basal

and 3rd month scores in global severity index, whereas there was a significant decrease in the 6th month scores according to the basal values. Compared with the basal values we found a significant decrease in depression, anxiety and paranoid ideation scores in the 3rd month and a significant decrease in somatization, obsessive-compulsive signs, depression, anxiety, hostility and paranoid ideation scores in the 6th month of the treatment.

As a result, asthma treatment not only relieves the respiratory symptoms and clinical status of the patients but significantly improves the psychological symptoms as well. The improvement in psychological status of the patients was considered to be related with the successful control of the asthma symptoms.

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