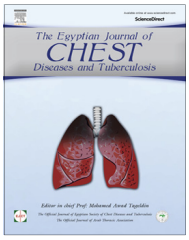
Egyptian Journal of Chest Diseases and Tuberculosis (2015) 64, 307–311

HOSTED BY

The Egyptian Society of Chest Diseases and Tuberculosis

Egyptian Journal of Chest Diseases and Tuberculosis

www.elsevier.com/locate/ejcdt
www.sciencedirect.com



ORIGINAL ARTICLE

Depression, anxiety, distress and somatization in asthmatic patients

Hala Mohamed Shalaby Samaha [a,*], **Amany Ragab Elsaid** [a], **Youmna Sabri** [b]

[a] *Thoracic Medicine Department, Mansoura University, Egypt*
[b] *Psychiatry Department, Mansoura University, Egypt*

Received 13 January 2015; accepted 18 February 2015
Available online 21 March 2015

KEYWORDS

Asthma;
Depression;
Anxiety;
Somatization;
Psychiatric symptoms

Abstract *Objective:* There is evidence that asthma is associated with an increase in psychiatric disorders (depression, anxiety, distress and somatization). The purpose of this study was to assess the presence of psychiatric disorders in adult asthmatic patients and to examine its relationship to asthma control.

Methods: A cross-sectional case-control study was conducted on 134 subjects (65 healthy volunteers, 69 asthmatic patients). The asthmatic patients were divided into 3 groups, according to GINA guidelines (GINA, 2010) [2] criteria for asthma control, and were subsequently compared to control groups in terms of demographic, clinical, and spirometric data, as well as The Four-Dimensional Symptom Questionnaire to assess psychological symptoms.

Results: The sample was predominantly female 49 patients (71%). Of the 69 patients, 32 (46%) were classified as having uncontrolled asthma. Somatization, anxiety, depression, distress levels were higher among asthma patients compared to control and the difference was statistically significant ($p < 0.05$). High levels of somatization and distress were found among uncontrolled asthma cases compared to partially and controlled cases with no statistically significant difference ($p > 0.05$ and $p > 0.05$, respectively). High levels of anxiety were found among uncontrolled and partially controlled asthma cases compared to controlled cases with no statistically significant difference. Low grade depression levels were noticed among controlled cases. High levels of anxiety were found among uncontrolled and partially controlled asthma cases compared to controlled cases with no statistically significant difference ($p > 0.05$ and $p > 0.05$, respectively). There was a negative weak correlation between psychiatric symptoms and age, duration of asthma and forced expiratory volume in the first second ($p > 0.05$).

Conclusions: Asthmatic patients are at high risk of psychiatric problems, particularly depression, anxiety and somatization. Asthmatic patients need psychotherapy besides their medication of asthma to obtain better asthma out come and management.

Abbreviations: 4DSQ, the four-dimensional symptom questionnaire; FEV1, forced expiratory volume; ANS, autonomic nervous system; HPA, *hypothalamic pituitary adrenal axis*.

* Corresponding author.

Peer review under responsibility of The Egyptian Society of Chest Diseases and Tuberculosis.

http://dx.doi.org/10.1016/j.ejcdt.2015.02.010

Introduction

Bronchial asthma is a chronic inflammatory condition which is considered as a major cause of disability and death [1]. The prevalence of asthma has been increased in recent decades; it affects about 300 million people world-wide which brings about high socioeconomic costs and an increase in mortality and morbidity [2]. The disease is characterized by sudden and unexpected attacks of shortness of breath, thus asthma attacks are a real threat for life in these patients [3].

It makes sense that asthma significantly affects psychological health because its impact on activities, sleep and social life of patients. On the other hand, psychological factors may be a risk factor for exacerbation of this disorder [4].

Asthma presents the most profound links between psychological, social, biological and physiological factors [5]. More recent hypotheses regarding the link between asthma and psychological factors are describing asthma as a classic psychosomatic disorder caused by specific psychological conflicts [6].

Two-thirds of patients with asthma are anxious during the acute attack. Anxiety symptoms in asthmatics have been revealed as strong predictors of respiratory illness in those patients [7].

On the other hand, some negative emotions (fear, panic, anger, and depression) are involved in a fluctuating process of bronchoconstriction of the airways, leading to worse crises of asthma [8]. But, these emotions are not severe enough to be classified as psychiatric disorders, but can lead to initiation or worsening of asthma, directly by psychophysiological effects or indirectly by neglecting self-management of the illness. Conversely, these emotions can also be worsened by asthma itself [9]. Depression is also associated with autonomic dysregulation leading to a cholinergic or vagal bias (i.e., vagal over sympathetic reactivity) which increases airway instability in asthma [10]. Stress exposure increases the risk of developing asthma. In some patients, stress is the essential trigger for asthma attacks [11].

Patients and methods

This study was across-sectional case-control conducted on 134 subjects (65 healthy volunteers, 69 asthmatic patients) who were recruited from outpatient clinic of the Mansoura University Hospitals, from April 2014 to December 2014. The subjects were included after providing a written informed consent.

Table 1 Psychiatric symptoms in asthma patients and control.

	Asthma patients $N = 69$ **Group A**	Control $N = 65$ **Group B**	p value
	Median (min–max)		
Somatization	17(0–33)	8(0–30)	< 0.001
Anxiety	9(0–23)	4(0–20)	< 0.001
Depression	3(0–12)	1(0–12)	< 0.001
Distress	16(0–34)	10(0–32)	< 0.01

The asthmatic patients were divided into 3 groups, according to GINA guidelines [2] criteria for asthma control.

Group A: included 69 asthmatic patients.
Group B: included 65 healthy volunteers.
Group A was divided into 3 groups.

Group I: included 32uncontrolled asthmatic patients.
Group II: included 10 partially controlled asthmatic patients.
Group III: included 27 controlled asthmatic patients.

All study subjects were considered eligible for the study if they were confirmed to the following criteria.

Inclusion criteria

1. Confirmed asthmatic patient.
2. Non-smoker.
3. No exacerbation, chest infection in the last month.
4. No other respiratory disorders like tuberculosis, cystic fibrosis, bronchiectasis.
5. No other systemic disease hepatic, renal, diabetic, malignancy, autoimmune diseases.
6. Pulmonary function and answering the questionnaire on the same day.
7. No history of psychiatric disorder.

This study was designed to assess common psychological symptoms (anxiety, depression, stress and somatization), age, sex, duration of asthma and pulmonary function (forced expiratory volume (FEV1)) in asthmatic patients.

Study definition

Distress

Characteristic distress symptoms are worry, irritability, tension, listlessness, poor concentration, sleeping problems and demoralization.

Depression and anxiety

Because distress symptoms virtually always accompany mood and anxiety disorders, it seems difficult to differentiate distress from depression and anxiety. When distress is separated from depression we are left with anhedonia and depressive thoughts. These symptoms are considered to represent the core symptomatology of major depression. When we separate distress from anxiety, we are left with irrational fears, anticipation anxiety and avoidance behavior.

Somatization

Somatization is a tendency to experience medically unexplained somatic symptoms, to attribute them to physical illness, and to seek medical help for them [12].

The Four-Dimensional Symptom Questionnaire (4DSQ)

The 4DSQ is a self-report questionnaire comprising 50 items distributed over four scales. The items are worded as questions similar to those that can be asked in everyday primary care practice. The reference period is "the past week". For example,