Gender differences in psychological distress in adults with asthma

Marianna I. Tovt-Korshynska, Mary Amanda Dew, Ivan V. Chopey, Mikola Ya. Spivak, Ivan S. Lemko

Department of Internship and Residency, Uzhgorod State University Medical School, Uzhgorod, Ukraine
Department of Psychiatry, University of Pittsburgh School of Medicine, 3811 O’Hara Street, Pittsburgh, PA 15213, USA
Department of Epidemiology, University of Pittsburgh School of Medicine, 3811 O’Hara Street, Pittsburgh, PA 15213, USA
Department of Psychology, University of Pittsburgh School of Medicine, 3811 O’Hara Street, Pittsburgh, PA 15213, USA
Western Psychiatric Institute and Clinic, Pittsburgh, PA, USA
Institute of Microbiology and Virology, National Academy of Sciences of Ukraine, Kiev, Ukraine
Rehabilitation Hospital, Ukraine Ministry of Health, Uzhgorod, Ukraine

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Abstract

Objectives: We sought to examine whether there were gender differences in the relationship of depressive, anxiety-related, and somatic symptomatology to the presence, severity, and duration of asthma. Methods: A total of 54 adult asthma patients (24 women, 30 men) and 31 healthy subjects (19 women, 12 men) were studied. Within each gender group, patients’ psychological distress levels were compared as a function of severity (mild vs. moderate) and duration of disease (<5 vs. 5+ years), to each other and with healthy subjects. Data were collected in Ukraine utilizing the Minnesota Multiphasic Personality Inventory (MMPI), the best-validated psychological assessment instrument in Eastern European populations. Results: Relative to healthy women, women with both mild and moderate asthma showed elevated distress in multiple domains reflecting somatic and psychological complaints. In contrast, only men with relatively more severe disease of longer duration showed elevated symptomatology relative to healthy men, with depressive symptoms predominating. Conclusion: To the extent that distress in response to asthma takes a more diffuse form and may be expressed at milder and earlier stages of the disease in women than men, the findings suggest the need to tailor asthma education and behavioral interventions to the unique psychological needs of women and men in order to be maximally effective.

Keywords: Asthma; Psychological adaptation; Depression; Anxiety; Gender differences

Introduction

Coping with a chronic disease such as asthma is greatly influenced not only by the features of the disease but also by the psychological and behavioral characteristics of the patient [1–3]. Though there is little agreement as to what extent psychological profiles and behavioral aspects may affect asthma, most investigations suggest that psychological factors can influence and be affected by the clinical changes of the disease [5–8]. For example, it has been shown that in asthmatics, helpless dependency and anxiety, or excessive inappropriate independence, were each related to higher hospitalization rates [5]. Both agoraphobia and panic disorder, as well as elevated anxiety levels on standardized distress measures, have been found to be more common among patients with asthma than in the general population [6]. Severe asthmatic patients have higher levels of hypochondriasis than mild or moderately ill patients, thus showing the worst coping response with the disease [1]. There is no firm conclusion regarding the association between depression and asthma. However, this combination has been found to be a significant risk factor for both reduced quality of life and mortality due to asthma [9–13].

One of the most salient correlates and potential determinants of psychological reactions to asthma, and the manner in which any such distress is expressed, may be the asthma patient’s gender. Gender plays an important role in adapta-
tion to many chronic physical health conditions, including heart disease, kidney disease, and nonasthma-related pulmonary disease [14–19]. Thus, expectations regarding physical functional status and ability to perform social, work, and familial roles often vary dramatically for chronically ill women vs. men, and the perceived impact of the illness on quality of life varies as well. Furthermore, there is some evidence that gender may selectively heighten vulnerability to certain mental health problems in the context of physical illness [15]. Thus, women’s heightened risk for depressive and anxiety-related disorders, and men’s heightened risk for somatic distress and for behavioral problems such as substance abuse — all of which are observed in otherwise healthy population cohorts [20–23] — appear to become even more pronounced in the presence of many chronic health conditions [6,12,22–26].

Surprisingly, however, the role of gender in modulating the expression of distress in the context of asthma has received little consideration, and existing work has focused primarily on severely asthmatic patients [4,10,27]. Given that relatively large proportions of the asthma population have mild to moderate illness levels, it is important to establish key psychological correlates — especially those that may be gender-linked — in these patients as well. This is particularly the case since keys to effective asthma management include instituting care before an individual progresses to severe asthma, and the tailoring of educational and behavioral interventions to the unique needs and concerns of the individual patient [28–30]. To the extent that men and women express their distress and concerns differently, current asthma management interventions may be less than optimally effective if these differences are overlooked. Alternatively, if men and women instead show similar levels and types of psychological distress in the face of asthma, asthma management programs would do better to focus their tailoring on other aspects of individual differences within the patient population.

In the present study, therefore, we sought to examine whether there were specific differences in the relationship of depressive, anxiety-related, and somatic symptomatology to the presence and severity (mild and moderate) of asthma among women vs. men. Consistent with studies of nonasthma-related chronic physical health conditions [6,12,22–26], we hypothesized that women with asthma — especially those with relatively more severe disease — would show a predominance of depressive and anxiety-related symptomatology, relative to healthy women, while men with asthma would express their distress through heightened somatic complaints. Moreover, because there is increasing evidence that prolonged exposure to disease effects leads to biologic changes in the patient’s airways (even after taking disease severity into account) [31–33], disease duration may be as important a factor to consider as level of disease severity in terms of impact on well-being. Thus, we also examined psychological distress in women and in men as a function of their disease duration in a subset of our sample. Finally, while most studies on psychological profiles and behavioral aspects in the context of physical illness have been conducted in the United States and Western Europe [34], an important feature of the present work is its focus on a patient sample from an Eastern European country — Ukraine.

Methods

Subjects

We studied 54 asthmatic patients (24 women, mean age 36.5 ± 1.74 years; 30 men, mean age 35.5 ± 1.65 years), with mild (n = 15), and moderate (n = 39) severity of the disease. Patients were consecutively recruited during an 8-month period in 1998 (refusal rate = 5%, n = 3) from the Rehabilitation Hospital (Ukraine Ministry of Health) in Uzhgorod, Ukraine. This tertiary care hospital provides both in- and outpatient services and it treats individuals from all over Ukraine. Most patients treated by the hospital are referred from their primary care physicians or from other hospitals in Ukraine.

Asthma diagnosis was assigned according to standard international medical criteria [35,36] on the basis of clinical data on asthma history and current status collected by direct interviews, evaluation of medical case histories, and pulmonary function testing results. With respect to the latter, subjects underwent baseline spirometric tests (i.e., without inhaling a short-acting bronchodilator) [35,36], performing at least three acceptable maneuvers (repeatable within 5%) to measure forced expiratory volume in 1 s (FEV1). FEV1 values were expressed as percentage of predicted value, and subjects with FEV1 at 80% or greater were classified as having mild asthma, while those with an FEV1 of 60% to 80% of predicted were classified as having moderate asthma [35,36]. As specified by international criteria, the presence of either clinical evidence or spirometry data at the FEV1 cutpoints was sufficient to place a patient at a given level of asthma severity [35,36]. Subjects with moderate asthma were further classified based on illness duration (determined from medical history information from the patient indicating the time of onset of first symptoms) into those with duration less than 5 years and patients with duration of 5 or more years. (We did not examine disease duration in relation to outcome variables in the mild asthma group due to the small sample sizes within this group.) Disease duration could not be considered as a continuous variable because its distribution was not normally distributed in the sample; it was bimodal with peaks at approximately 3–4 and 10 years. For this reason and because the 5-year point is a clinical benchmark often utilized when describing the shorter vs. longer durations of many chronic diseases, we dichotomized the distribution at this point.

Subjects had not experienced respiratory infections or spontaneous asthmatic relapses during the 2 weeks preced-
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