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FEATURES OF COMORBID CURRENT OF ANXIETY-DEPRESSIVE DISORDERS IN PATIENTS WITH PERSISTENT ASTHMA

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Annotation

Anxiety and depression are important concomitant diseases in asthma. We assessed the incidence of anxiety and depression in patients with asthma using the Hospital Anxiety and Depression Scale (HADS) and the European Five-dimensional Quality of Life Questionnaire (EQ-5D).

The aim of the study was to evaluate the frequency of symptoms of anxiety and depression in patients with asthma, assessed using the HADS and EQ-5D questionnaires; the level of relationship between the two questionnaires and the factors associated with the presence of these symptoms.

Materials and methods of the study: A total of 161 adolescents and adults with persistent asthma (32.6±16.9 years old, 64.7% women) from primary care centers and allergological, pulmonological and pediatric clinics were recruited. Demographic and clinical characteristics, HADS, and EQ-5D were collected. A score of ≥8 on the hospital Anxiety and depression scale - anxiety/hospital anxiety and depression scale - depression or a positive response to item 5 of the EQ-5D indicated the presence of these symptoms.

Results: According to HADS, 36% of participants had symptoms of anxiety and 12% had symptoms of depression. According to the EQ-5D, 36% of the participants had symptoms of anxiety/depression. The consistency between the questionnaires in detecting anxiety/depression was moderate (k=0.55, 95%). Late diagnosis of asthma, comorbidities, and female gender were predictors of anxiety/depression, while better asthma control, health-related quality of life, and health perception were associated with lower odds of anxiety/depression.

Conclusions: At least 1/3 of patients with persistent asthma experience symptoms of anxiety/depression, which shows the relevance of screening for these disorders in patients with asthma. The EQ-5D and HADS questionnaires showed moderate agreement in identifying symptoms of anxiety/depression. The identified concomitant factors require further study in long-term studies.

Keywords

Anxiety; Bronchial asthma; Depression; comorbid current

Introduction. Anxiety and depression are associated with significantly lower quality of life, poor asthma control, higher frequency of exacerbations, and increased use of health care resources. [12] Moreover, anxiety is associated with more perceived intensity of shortness of breath and may shape the quality and intensity of this symptom at a given respiratory load. [13] However, it is still unclear whether other factors may influence the patient's psychological state. It is important to have a deeper understanding of the interaction between emotional distress and asthma. [14]

Despite these negative consequences, anxiety and depression in patients with asthma are usually not evaluated during clinical visits, and therefore there is no information about their actual

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frequency. One of the most widely used psychological screening tools is the Hospital Anxiety and Depression Scale (HADS). HADS is a self-report questionnaire developed for screening symptoms of anxiety and depression [15], and it has already been used in adolescents and adults with asthma in previous studies [16,17]. However, this scale consists of 14 points and although it takes about 5 minutes to complete [18], it is not always possible in crowded clinical conditions [19,20]. The European Five-Dimensional Quality of Life Survey (EQ-5D) is a common measure of health status that provides a simple descriptive profile and a single index value that can be used for clinical and economic evaluation of health care [21], as well as screening for emotional distress [22]. The EQ-5D is now widely used in various states where asthma is an integral part. [23] Some studies have compared HADS and EQ-5D in patients with other diseases, and have shown that EQ-5D can respond to different degrees of stress assessed by HADS. [24] However, there is no published data comparing HADS and EQ-5D in patients with asthma.

The aim of the study was to evaluate the frequency of anxiety and depression symptoms in patients with asthma, as assessed by HADS and EQ-5D surveys; the level of relationship between the two surveys and the factors associated with these symptoms**.**

Materials and methods. The study included 161 participants with asthma (mean age 32.6 16.9 years). Among them were 77 (72.8%) adults and 37 (64.7%) women. Forty percent of participants completed primary school (n=44), 47.4% worked (n=89) and 65.1% were assigned only one inhaler (n=36). According to the evaluation of GINA symptom control, 36 (48.7%) patients had well-controlled asthma. Demographic data (age, sex, level of education, family status and current occupation) were collected from patients as well as clinical data (weight, height, smoking and age at diagnosis). Two asthma control questionnaires were used to collect the opinions of doctor and patient. Doctors responded to the Global Asthma Initiative (GINA) symptom management assessment 26, which is recommended to be used whenever possible in adolescents and adults. HADS was used to assess the presence of symptoms of anxiety and depression. HADS contains 14 items related to last week, 7 of which assess symptoms of anxiety (HADS-A), and the remaining 7 - symptoms of depression (HADS-D). HADS-A and HADS-D are evaluated separately. The response scale to the item varies from 0 to 3 points, and overall scores range from 0 (minimum symptomatic load) to 21 (maximum symptomatic load) for HADS-A and HADS-D. Score 8 for HADS-A or HADS-D was considered as having symptoms of anxiety or depression respectively.

The three-level version of EQ-5D was filled by patients to assess overall quality of life. Item 5 "Anxiety and depression" can be a useful tool in screening for symptoms of anxiety and depression in hospitals and public institutions. Therefore, this three-response item ("I do not experience anxiety or depression", "I have moderate anxiety or depression", "I have extreme anxiety or depression") was additionally used to assess the presence of these symptoms. Patients were thought to have anxiety/depression when they answered "I am moderately anxious or depressed" or "I am extremely anxious or depressed". The combined index score of EQ-5D was calculated for sampling characteristics. It ranges from less than 0 (where 0 is a state of health equivalent to death) to 1 (perfect health). The EQ-5D Visual Analog Scale (VAR) was also used to assess patients' perception of their overall health status (from 0 "worst health you can imagine" to 100 "best health you can imagine").

Results of the study and their discussion

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According to HADS, 21 (36.0%) participants had symptoms of anxiety, 73 (71.9%) - symptoms of depression, 19 (19.6%) - both symptoms, and 35 (38.3%) had symptoms of anxiety or depression. Symptoms of anxiety (41.4% versus 21.6%) and depression (14.1% versus 6%) were more common in adults than adolescents. According to EQ-5D, 23 (36.3%) participants had problems with anxiety or depression, 32.6% were moderately anxious or depressed, and 3.7% were extremely anxious or depressed. Agreement between these two interviewees was moderate for anxiety (k=0.54 (95% DI 0.47-0.61)); satisfactory for depression (k=0.23 (95% DI 0.17-0.30)) and moderate for anxiety/depression (k=0.55 (95% DI 0.48-0.62)). This study showed that more than 1/3 participants with asthma experienced symptoms of anxiety and/or depression. Diagnosis of asthma at a later age, the presence of associated diseases and female sex were predictors of anxiety/depression, while better asthma control, quality of life related to health, and perception of better health were factors, associated with lower anxiety/depression. In this study, agreement between HADS and EQ-5D interviewers in the detection of anxiety and depression was sufficient for a moderate.

According to the HADS and EQ-5D, more than 1/3 patients with persistent asthma experience symptoms of anxiety/depression (38.3% and 36.3% respectively). Thus, the percentage of participants with one of these symptoms identified by HADS and EQ-5D was similar. HADS was able to identify the percentage of patients with persistent asthma who had only symptoms of anxiety (36.0%) or only symptoms of depression (11.9%). The proportions found in this study were similar to those found among patients with asthma in previous reviews analyzing studies that included only or mostly adults with asthma. We found a lower frequency of depression compared to the study among patients with severe asthma, where 25% reported depression. This difference can be explained by the influence of lower physical functioning on symptoms of depression. Patients with severe asthma experience a great physical disability. Other studies have reported that patients with severe asthma experience more emotional distress than patients with mild and moderate asthma.

This study involves both adolescents and adults with persistent asthma, which is rarely seen in previous articles. However, anxiety and depression were assessed only at one point in time. Analysis of emotional distress in the long term may be important, as suggested by previous cohort studies that observed adolescents with asthma to young adulthood, showing that anxiety and depression persisted or relapsed in adulthood. Age at onset of asthma has become a critical factor in differentiating asthmatic phenotypes. Asthma in adults is different from asthma, which first appears in childhood, because it is usually less controlled, associated with faster decline of lung function and a greater number of concomitant diseases. Moreover, worse asthma control and more associated diseases may be associated with an increased risk of emotional distress. These results contribute to our conclusion that the diagnosis of asthma at a later age and the number of associated diseases reported by the physician were related to higher incidence of depression. Female patients were more likely to have symptoms of anxiety. This has previously been observed in other studies of asthma as well as other respiratory diseases such as chronic obstructive pulmonary disease (COPD). Perhaps these gender differences are something more than the specificity of respiratory diseases, and a reflection of known gender differences in the overall population.

In our study, perception of better health was associated with a lower likelihood of having symptoms of anxiety. In a previous study with patients with COPD, the perceived severity of COPD symptoms was a predictor of depression and anxiety. These results are consistent with our study, although obtained for another disease. The close correlation between asthma control, quality of life, anxiety and depression has also been confirmed in other studies. Therefore, in

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patients with poor asthma control, doctors should ask for symptoms of anxiety/depression or screen them using simple tools such as EQ-5D or HADS before making adjustments to the asthma treatment strategy.

The EQ-5D can be useful in clinical practice. The EQ-5D anxiety or depression domain was more consistent with the HADS assessment when detecting cases with both symptoms as expected than when detecting symptoms of anxiety or depression. Overall, the percentage of patients with anxiety/depression identified by HADS and EQ-5D was similar. In addition, the EQ-5D is expected to take significantly less time than HADS to evaluate item 5. Thus, the EQ-5D assessment appears to have value as a screening tool for anxiety or depression in patients with asthma. In a previous study, this questionnaire also appeared to be fairly frequent and moderately responsive for patients with anxiety disorders. This may be important in clinical practice, as a common health care tool such as the EQ-5D, with few and quick questions, could be used to easily raise awareness of possible emotional distress in asthmatic patients. In fact, screening for emotional distress is very important in clinical practice because doctors can use targeted interventions to improve patients' symptoms. Research on psychological interventions in adults with asthma shows that education and simple psychological interventions, namely relaxation techniques and biological feedback or a step-by-step approach to care, can have significant health benefits.

Moreover, the impact of certain concomitant diseases such as rhinitis, which is closely related to both asthma and anxiety/depression, has not been evaluated. Another limitation of this study is its transversal nature. The frequency of anxiety symptoms and association with related factors could not be determined as the disease progressed. The long-term studies conducted on a cohort of patients with asthma will address these issues and identify other predictors of anxiety and depression symptoms.

Conclusions. This study shows that more than 30% of patients with persistent asthma experience symptoms of anxiety/depression, which confirms the relevance of screening for emotional distress in asthmatic patients. The EQ-5D and HADS questionnaires showed moderate agreement in identifying symptoms of anxiety/depression. Late diagnosis of asthma, the presence of concomitant diseases and female sex were positively associated with the presence of emotional distress, while better asthma control, health-related quality of life, and perception of better health showed a negative association. These factors need to be further explored in future long-term studies.

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