Recognition of Anxiety and Depressive Disorders in Patients with Asthma

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Introduction :

Asthma is a global health problem with prevalence of up to 21% in certain regions. Extensive literature exists that illustrates a correlation between anxiety/panic disorder and asthma. Studies have reported up to a 50% prevalence of anxiety disorders in patients with severe asthma. Evidence has shown that comorbid anxiety disorder is a risk factor for exacerbation in adult patients with asthma, as well as 30-day readmissions in pediatric and adult patients admitted with asthma exacerbation. Comorbid anxiety has been linked to higher rates of emergency room visits for asthma-related symptoms.

Similarly, depressive disorders have also been widely linked to diagnosis of asthma. Comorbid depressive disorders are reportedly related to increased risk of asthma exacerbations, hospitalizations, and emergency room visits due to asthma symptoms. Significant symptoms of depression are related to asthma diagnosis, self-reported asthma control and bronchodilator responsiveness.

Routine clinical questioning in patients with asthma rarely focuses on psychiatric disorders as potential comorbidities, even though it has been well-documented that the overlap is substantial and may in fact affect symptomatology. In clinical practice, it has been observed that patients with severe pulmonary disease are rarely diagnosed with a comorbid psychiatric illness. Identification of patients with undiagnosed anxiety may aid the physician in treating the patient and prevent subsequent self-reported exacerbations and unnecessary emergency visits.

Methods :

Adult patients with a pulmonologist-confirmed diagnosis of asthma were included in the study at the time of their outpatient visit. History of psychotic disorder was an exclusion criteria. All patients signed informed consent. A series of the following questionnaires was given to each patient.

Measures :

Asthma Control Test (ACT): This is a 5-item measure of asthma symptom control over the past 4 weeks. The cumulative score ranges from 0-25 and is interpreted as well-controlled or not well controlled, with higher score being more controlled symptoms. It has shown good internal consistency and test-retest reliability. It has also shown good criterion and discriminant validity. It is widely used in asthma research and practice .

Beck Anxiety Inventory (BAI): This is a 21-item self-report measure of anxiety. The questions are answered on a 4-point scale of not at all, mild, moderate, and severe. The measure has been validated and utilized in a wide spectrum of populations. The measure has good internal consistency and test-retest reliability. A total score of <22 indicates low anxiety, 22-35 indicates moderate anxiety, and 36 and above potentially concerning levels of anxiety. It has been found to be appropriate for use in patients with asthma.

Patient Health Questionnaire (PHQ-9): This is a 9-item questionnaire that quantifies symptoms of depression. The total score classifies depressive symptoms as none, mild, moderate, moderately severe, or severe. The measure has been validated and used in a wide spectrum of populations. A PHQ-9 score of ≥ 10 has a sensitivity and specificity of 88% for major depressive disorder. The measure has been shown to be reliable in previous studies in asthma patients.

Results :

The sample of 62 patients was mostly female (77%), non-Caucasian (87%), with a mean age of 56 years old. Approximately 1/3 of patients had a comorbid respiratory diagnosis (e.g. COPD, OSA, Bronchiectasis).

ACT scores ranged from 6 to 25, PHQ9 scores from 0 to 20, and BAI scores from 0 to 42. ACT score and PHQ9 score were significantly negatively correlated, suggesting as depressive symptoms increase, asthma control decreases (-.38, p=.002). ACT and BAI were significantly negatively correlated, indicating that as anxiety symptoms increase, asthma control decreases (-.49, p<.001). One-way ANOVA's were also significant (see Figures 1 and 2).
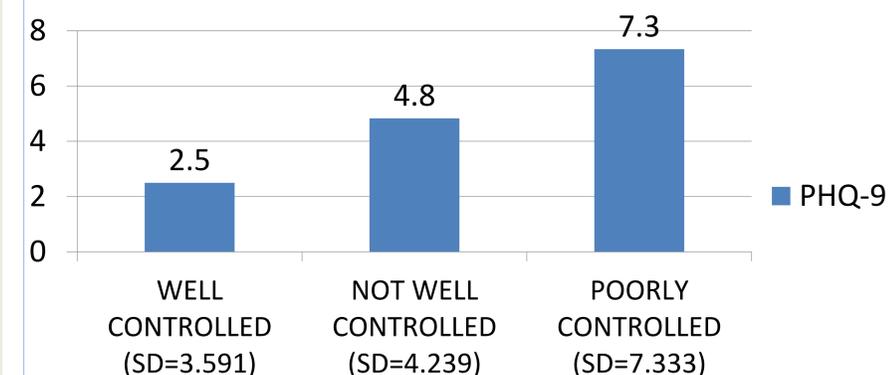
Discussion :

Even given the amount of literature to support the relationship between anxiety and asthma control, it still seems to be going unrecognized in general practice. The same is also true for the relationship between depression and asthma control.

This study was not able to address causation. It is possible that by addressing the symptoms of asthma and making the patient fell more controlled that this will in turn reduce symptoms of anxiety and depression. Alternatively, addressing a patients psychiatric symptoms may help them to feel that they have more control over their asthma symptoms. At least one study has shown that cognitive behavioral therapy in patients with anxiety and asthma has shown to improve medication compliance and lessen self-reported asthma symptoms (Feldman et al 2016; Kew et al. 2016).

Psychiatric comorbidities continue to be poorly addressed entities in patients with asthma, especially in uncontrolled asthma.

Figure 1: Mean PHQ-9 Scores in Patients With Different Levels of Asthma Control

WELL CONTROLLED (SD=3.591): 2.5
NOT WELL CONTROLLED (SD=4.239): 4.8
POORLY CONTROLLED (SD=7.333): 7.3

Figure 2: Mean BAI Scores in Patients With Different Levels of Asthma Control

WELL CONTROLLED (SD=1.332): 5.6
NOT WELL CONTROLLED (SD=1.891): 14.0
POORLY CONTROLLED (SD=2.079): 15.4