Screening for Anxiety and Depression in a Chronic Pain Population

Authors: Anne M. Misher, Carol G. Bledsoe, Diane R. Dolan-Soto, Susan J. Blalock, Amy Weil, Timothy J. Ives

Introduction:

Chronic pain can be extremely debilitating for patients. One study reported the prevalence of chronic pain as 11% in the United States\(^1\). Comorbidities of depression and anxiety have been found to make chronic musculoskeletal pain more severe and result in greater interference with daily activities\(^2\)-\(^4\).

Depression can have a negative effect on the perception of chronic pain. Patients with depression have increased disability resulting from their pain, financial difficulties and higher unemployment rate\(^2\). Therefore, treating comorbid depression could be beneficial in achieving pain control\(^5\).

The effect of anxiety on chronic pain is far less defined than the relationship with pain and depression. One study directly addressed the treatment of DSM-IV anxiety disorders and somatization in chronic pain patients\(^6\). The study demonstrated that anxiety disorders are frequent in the general population and in primary care patients. Anxiety is defined as generalized anxiety disorder, panic disorder, social anxiety disorder, or posttraumatic stress disorder as these disorders have previously been shown to be effectively screened for by GAD-7\(^7\)-\(^8\). As such, the GAD-7 is a previously validated anxiety disorder case finding instrument. By treating patients' anxiety, it is anticipated there will be an overall improvement in attitude towards the physician's role in treating chronic pain and that patient mood, health and functioning will also benefit.

There is significant evidence to show that both depression and anxiety are linked to making pain perception worse, making finding quick yet effective ways to screen chronic pain patients important\(^3\)-\(^4\). Therefore, this study evaluated the use of the GAD-7 as a screening tool for anxiety in chronic pain patients. We hypothesized that reducing anxiety symptoms will lead to the improvement of care for chronic pain patients as characterized by lower pain scores. Likewise, we hoped to show patients with chronic pain not only have comorbid depression, but have comorbid anxiety contributing to chronic pain symptoms. Assessing the relevance of screening tools in the primary care setting is intended to develop treatment algorithms including use of patient education, pharmacotherapy options, and indicate patients who would benefit from mental health counseling or psychiatric assessment and treatment.
Methods:

Study Design

The study was a prospective cohort pilot study to determine if utilizing the GAD-7 to screen for anxiety in ambulatory chronic pain patients would be beneficial. The GAD-7, PHQ-9 and BPI were administered to the study population at the initial clinic visit. Participants additionally completed follow-up questionnaires at 1 month and 3 months either in clinic or via telephone interview. Informed consent was obtained for all participants. The University of North Carolina at Chapel Hill Institutional Review Board approved all study procedures.

Participants

Patients were enrolled with or newly referred to a tertiary care clinic at the University of North Carolina at Chapel Hill Internal Medicine Pain Clinic between January 2013 and April 2013. Patients with or without a simultaneous diagnosis of an anxiety disorder, prior to or at the time of the initial visit were included in the study. Patients were included if they were adults 18 years or older with uncontrolled, chronic, non-malignant pain. Patients were excluded if they were unable or unwilling to complete questionnaires.

Study Outcomes:

Demographics including age, sex, race and prior psychiatric diagnoses were collected and assessed with descriptive statistics. Changes in GAD7, PHQ9, and BPI scores were used to detect a relationship between anxiety, depression, and pain level. Pearson correlation coefficients were used to evaluate for correlations between these screening tools. A GAD-7 cut point of 10 or greater would yield both sufficient specificity and sensitivity to indicate the presence of one or more of the four most common anxiety disorders (generalized anxiety disorder, panic disorder, social anxiety disorder, and posttraumatic stress disorder).

Results:

A total of 97 patients were enrolled. The study population included 73.2% women (n =71) with a mean age of 52.9 years. Comorbid psychiatric diagnoses included anxiety, depression, bipolar disorder, posttraumatic stress disorder, substance abuse, mood disorder, and panic disorder. One patient
withdrew from the study while three patients were lost to follow up. Within the chronic pain patient population, initial screening revealed that 42.3% (N = 41) screened positive for significant symptoms of both anxiety and depression (i.e., scores greater than 9 on GAD7 and PHQ9, respectively). Figure 1 demonstrates, at the three month follow up visit, the percentage of patients screening positive for both anxiety and depression decreased to 38.7% (36 of 93 patients) and 33.3% (30 of 90 patients), respectively. The frequency of patients screening for significant symptoms of anxiety alone also decreased from 13.4% (13 of 97 patients) at the initial visit to 6.4% (6 of 93 patients) and 6.7% (6 of 90 patients) at the one and three month visits, respectively. FA correlation was found between pain scores and GAD7 scores at all three time points (Pearson correlation coefficient 0.31, 0.40 and 0.60 for initial, one month and three month visits, respectively), as displayed in Figure 2.

**Figure 1.** Frequency of patients screening for anxiety and/or depression. Patients were identified by GAD-7 with anxiety symptoms who were not captured utilizing PHQ-9 alone.
Figure 2. Patient screening for anxiety and/or depression. Patients were identified by GAD-7 with anxiety symptoms who were not captured utilizing PHQ-9 alone.

Discussion:

Comorbid anxiety and depression are prominent within patients with chronic pain. Identifying patients who could benefit from treatment from these comorbid conditions is necessary in order to improve chronic pain symptoms. Currently our clinic has had success in identifying patients with depression utilizing the PHQ-9 questionnaire and hopes to expand screening to include anxiety utilizing the GAD-7.

The use of validated questionnaires can aid clinicians in screening patients for these comorbidities. This study demonstrated that although the GAD-7 and PHQ-9 are highly correlated in chronic pain patients, the GAD-7 still remains useful for identifying patients who are affected by comorbid anxiety alone. This finding is important as the use of only one screening tool would not identify all patients in need of further care.

The study had several limitations. The study was intended as a pilot study, so sample size was small and the study was conducted at only one clinic site. This study was intended to provide initial data to support the feasibility of adding the GAD-7 screening tool into the clinic’s current workflow. Additionally, potential bias could have added by assessing patients via telephone as opposed to an office visit.
Further studies are needed to determine if administration of the GAD-7 in chronic pain patients is cost effective and leads to better treatment outcomes. This study was intended as a pilot study for quality improvement to determine if the given population was in need of additional services for comorbid anxiety. It is our belief that identification and treatment of patients with anxiety will result in improved pain management.

References


