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Letters to the Editor

Pain and Emotional Status

To the Editor:

In a recent interesting article Manchikanti et al (1) demonstrated that there was a significant difference in the frequency of depressive disorders (major depression and dysthymia) between controls (no pain) and two groups of chronic pain patients (CPPs): pain one region only and pain more than one region. Measurements for the presence of depressive disorders was obtained from the MCMI-III (1).

As the authors point out, previous researchers have reported a greater prevalence of mood disorders in CPPs with widespread pain (2) and two or more pain complaints (3) versus controls. The authors' results support these previous results. However, at issue is why this should occur?

In a recent evidence-based structured review (not a meta analysis), Fishbain et al (4) were able to address these questions. Here, it was clearly shown that: 1) depression is more common in chronic pain patients than controls; 2) the preponderance of the evidence indicated that depression followed the development of chronic pain; 3) however, depression predisposition predisposed to the development of depression following the development of chronic pain; 4) and most important, there was a relationship between the perceived severity and frequency of pain and development of depression. This last study was recently supported by a meta analysis performed on studies utilizing rheumatoid arthritis patients who were depressed and had pain (5). Here, effect sizes for depression were shown to vary in a linear manner in proportion to the effect size for pain. The authors concluded that depression is more common in rheumatoid arthritis patients than in healthy individuals due in part to the levels of pain experienced (5). Thus, pain can service an etiological function in the development of mood disorders in CPPs. As such, studies such as that of Manchikanti et al (1) are difficult to interpret unless there is some control for pain level. It is likely that if such controls had been utilized in this study that it would have been found that there was a significant difference in pain levels between the CPPs with pain in one region versus those CPPs with pain in multiple regions.

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In response:

We would like to thank Dr. Fishbain for his comments on our article entitled Do Number of Pain Conditions Influence Emotional Status? (1). Dr. Fishbain raises an interesting question and states that an issue is why patients with two or more pain complaints should have greater prevalence of mood disorders versus controls? Dr. Fishbain also refers to their recent evidence-based structured review (not a meta analysis), in which they were able to address these questions. Fishbain et al (2) evaluated the following seven topic areas:

I. Association of pain and depression;
II. The effect of severity and frequency of pain on severity of depression;
III. The association of chronic pain and suicide;
IV. Studies addressing the antecedent hypothesis for the relationship between depression and pain;
V. Studies addressing the consequence hypothesis for the relationships between pain and depression;
VI. Studies addressing the scar hypothesis for the relationship between depression and pain; and
VII. Studies addressing the cognitive mediation hypothesis for the relationship between pain and depression.

At issue here is the effect of severity and frequency of pain on the severity of depression. Fishbain et al (2) found 37 studies that applied to the association of severity and frequency of pain with severity of depression topic. Further, this topic was studied in six conceptually different ways described as follows:

1. Simply looking for a relationship between the presence of pain and depression versus no pain;
2. Looking for a relationship between severity of pain and depression;
3. Looking for a relationship between the number of pains and depression;
4. Looking for a relationship between frequency of pain; and/or
5. Pain intrusion/pain breakthrough and depression; and
6. Looking at the extent of pain.

Again, the issues at discussion here are concerned with looking for a relationship between the number of pains and depression. Fishbain et al (2) stated that if pain causes the development of depression, there should be a relationship between the number of pains and degree of depression. They stated that two studies (3, 4) have investigated this issue. Dworkin et al (3) in a 1990 publication, investigated the issue in health maintenance organization medical patients, whereas, Parmelee et al (4) in a 1991 publication investigated the issue in institutionalized nursing home residents. Both found a statistical relationship between the number of pains and degree of depression. Multiple other publications also confirm this finding (5-7). Further, Dworkin et al (3) concluded that the number of pain conditions reported was a better predictor of major depression than were important measures of pain experience, including pain severity and pain persistence. McBeth et al (8), in a recent publication, evaluating the role of chronic pain in predicting future psychological distress, concluded that chronic widespread pain was associated with future psychological distress. However, they also concluded that this association was explained by other co-morbid features, which are known to be associated with such pain. They concluded that the findings supported the argument that it is the interaction between chronic widespread pain and physical and psychological co-morbidities that predicts future distress. However, Brown et al (9) concluded that in rheumatoid arthritis, high levels of pain were associated with depression. Fishbain et al (2) also reviewed the relationship between "pain extent" and degree of depression. They showed that one study (10) did not find a statistical relationship, whereas another study (11) found a significant relationship. In both studies, "pain extent" was measured by a pain drawing. Fishbain et al (2) also reviewed 13 studies related to chronic pain correlating the relationship between the severity of perceived pain and degree of depression. Fishbain et al (2) stated that of all the 23 studies addressing the concept of severity, all but two found a statistical relationship between the severity of pain and degree of depression. We attempted to review these 13 studies, however, 2 of them were abstracts (12, 13). Of the remaining 11 studies, 2 studies were negative, as described by Fishbain et al (2). Among the others, the following conclusions were drawn:

- Faucett (14) found that after controlling for the type of painful chronic disorder, multiple linear regression analysis indicated that more severe depression was significantly associated with more severe pain, conflict about pain, and less network social support. Conflict about pain may increase the risk of depression for patients with chronic painful disorders.
- Chibnall and Tate (10) showed that the correlation between the factor's course of Beck Depression Inventory and the Pain Disability Index suggested that endorsement of the work inhibition and fatigue items by chronic pain patients may not be indicative of affective disturbance.
- Krause et al (15), comparing depression and pain behavior in patients with chronic pain, showed that both depressed and non-depressed subjects rated themselves as exhibiting more pain behavior than did nurse ratings and they concluded that cognitive factors may influence self-ratings of pain behavior by depressed subjects.

One study a was comparison of prostate cancer patients with and without pain (16) and we were unable to obtain a second one (17). The remaining 7 studies (18-24) apparently showed the relationship between the severity of pain

and degree of depression. Dickens et al (25), as quoted by Fishbain, concluded that "depression is more common in patients with rheumatoid arthritis than in healthy individuals." They (25) also concluded that this difference is not due to sociodemographic differences between groups, but it may be attributable, in part, to the levels of pain experienced. In addition, Dickens et al (26) in studying psychological correlates of pain behavior in patients with chronic low back pain, showed that patients with excessive pain behavior were more disabled, reported greater pain, and were more likely to be female and to have pain of shorter duration. However, pain behavior did not correlate with anxiety or depression, but correlated with measures of disability and pain intensity.

Thus, Fishbain (2) raises a valid interest in studying the correlation between pain level and depression. However, our study was focused on the number of pain conditions influencing emotional status rather than the severity of pain. Thus, we believe that our study is not difficult to interpret as we have attempted to show the relationship between the number of pain conditions and emotional status rather than pain level. We partially agree with Fishbain that it is likely that if pain levels had been utilized in this study. We would have found a significant difference in pain levels between the chronic pain patients. However, we only agree that it may be possible we would have found that there was a significant correlation between patient's emotional status and pain levels in one region versus pain in multiple regions.

Multiple questions may be raised about the concept of correlating pain levels with emotional status rather than only the regions themselves. Problems with such a model would be to accurately determine the impact of severity on a person with limited pain versus widespread pain. Once we understand the variations with such a concept, we will consider performing such a study to see if this concept in fact will prove to be accurate. However, the limited focus of our study evaluating the number of pain conditions and their influence on emotional status in interventional pain management setting is accurate and appropriate.

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