Reviewer's report

Title: Depression Treatment Patterns Among Individuals With Arthritis: A Cross Sectional Study

Version: 2 Date: 12 February 2013

Reviewer: Mary Margaretten

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Major Compulsory Revisions

1. It seems that patients were included if they had one ICD-9 code for RA or OA but subjects should have had at least 2 face-to-face physician encounters with different dates of service during the measurement time-frame for a diagnosis of RA/OA. This is due to the fact patients may be seen for a one-time “rule-out visit.” A visit may be coded at one visit for arthritis but the patient does not actually have the diagnosis. Two visits coded for the RA or OA gets around this problem. Here is the reference: Gabriel et al. The sensitivity and specificity of computerized databases for the diagnosis of rheumatoid arthritis. Arthritis Rheum. 1994 Jun;37(6):821-3. PMID: 8003054

2. I am concerned that patients with RA and OA were combined. The authors state that they combined RA and OA into one group because of "their biological link with depression." However these are two very different conditions (one is a pro-inflammatory autoimmune disease and the other is a consequence of mechanical wear-and-tear) with different prevalences of depression, different pathophysiology, and different mechanisms for depression. The authors need to compare the patients with OA and RA to see if these groups can be combined. I imagine that patients with OA far outnumber patients with RA and if the groups are not similar then perhaps patients with RA should be excluded?

3. Table 1 should be patient characteristics organized by the outcome not by different conditions. In other words there should be 3 columns - Column 1 - all arthritis patients, Column 2 - arthritis patients with antidepressant use, Column 3 - Arthritis patients with antidepressant use + psychotherapy. The point of the paper is to see differences by prescription patterns not differences among chronic conditions.

Minor Essential Revisions:

1. The authors state that depression can cause pain but this relationship is bi-directional. (1st paragraph page 3, 1st paragraph page 8) and the authors need to better clarify the complicated relationship between pain and depression. Pain can lead to depression as well. The authors indirectly show this when they discuss that treatment of pain can improve depressive symptoms in the next paragraph.
2. Disability/Poor function is strongly associated with depression in patients with arthritis and is a potential confounder. The authors need to control for poor function and if there was no measure of disability in the data then this should be mentioned in the limitations section.

3. The statistical methods used should be described better. Were the covariates normally distributed? Were the data examined for interactions, effect modifiers?

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests