Reviewer’s report

Title: The multifaceted impact of anxiety and depression on patients with rheumatoid arthritis

Version: 0 Date: 28 Jan 2019

Reviewer: Cheryl Barnabé

Reviewer's report:

The authors report data from a 'real world RA disease-specific programme' from the USA, France, Germany, Italy, Spain and UK on the frequency of anxiety/depression in RA patients, and the impact of this on several outcomes including function, employment, treat to target attainment. As the authors state, there is only emerging understanding by clinicians, health system leaders and guideline writers of the impact of these mental health conditions on RA outcomes and so the rationale to look at the associations/outcomes are important.

There are threats to the importance of the study:

- respondent bias- Are depressed/anxious patients more or less likely to participate in surveys? How does this impact results?

- ethics - Methods may have been previously published but they should be summarized. Were patients/physicians paid to respond or did they receive another incentive to participate? How were they recruited? How did you address the ethics of physicians supplying clinical information prior to patients being consented? What was the investigators' plans for participants who responded/had indications of severe mental health condition requiring intervention? Note that the study was written/analyzed/funded by pharmaceutical company employees.

- Many gaps in defining how outcomes were operationalized (detailed further below)

Introduction

Page 5, line 107 - is there a reference missing for the Canadian study listed?

Methods
- need to specify how 'satisfaction with current treatment' was asked to patients. Asking patients if they are satisfied with their current treatment is not seem the same to me as physicians assessing the patient is in disease control

- It does not seem to me that patients can report past history of depression/anxiety or being on treatment for same. If their psychiatric treatment is working they may score as being not anxious/depressed on the EQ-5D-3L.

- Outcomes need to be better defined (eg what is T2T achievement?. Despite describing WPAI measure outcomes how were these operationalized for analysis?)

- What is the primary outcome? Secondary outcomes? There are many outcomes presented, it is difficult to know what the main reason for the study is- but if it is really impact of anxiety/depression on outcomes then that should be your main analysis; discordance between physician and patient assessment is a different question

- how was flare assessed?

- covariates incompletely collected - education, income, smoking and alcohol intake would be important covariates - all associated with RA severity and depression/anxiety

Results

- No breakdown of treatment (RA and psychiatric) provided- just gives % of biologic-treated, however in tables says on biologic or 'on break' from treatment

- How is RA severity determined? (text and Table 1)

- for Pain clarify if a scale of 0-10 vs scale of 1-10 was used

- the presentation of agreement between MD-assessed vs patient-assessed depression/anxiety is problematic as above; but also not presented clearly

- not clear what operationalized definition for T2T goal setting and achievement was used

- how was 'physician confidence' in attaining T2T goal determined?

- how was stable/improving disease activity operationalized?

- ½-2/3 of sample missing for T2T analysis
Discussion

- It is more written as a defense of the methods. You would need to tie back to your results on the implications to disease activity assessment, work/employment/function issues etc

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Acceptable

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