Reviewers report

Title: The prevalence and types of discordance between physician perception and objective data from standardized measures of RA disease activity in real-world clinical practice in the US

Version: 2 Date: 11 Dec 2018

Reviewer: Ricardo Ferreira

Reviewer's report:

Dear Authors,

This manuscript reads better after the significant amount of changed performed by you. Well done.

However, I propose some other improvements before being considered for publication.

One major comment is that the concordance and discordance is being assessed for remission (DAS28-ESR3v <2.6). This is an acceptable target. However, LDA may be acceptable as well for many patients.

In the results section, line 226-228, it is stated: "For cases classified under Rheumatologist-negative discordance, the distribution of the DAS28(3)-ESR scores showed that the majority were under the 3.2 cut-off for low disease activity". So, despite not in remission, patient might be in an "acceptable" disease activity state on Rheumatologist's perspective, on Patient's perspective, or on the perspective of both. Could you please comment this results?

Could a sensitivity analysis be performed considering the cut-off of LDA?

In line 286 - "some explanation could be derived from a previous study showing that "remission" is a more likely treatment target in the early stages of disease (diagnosis < 2 years)" is also part of the explanation.

Other comments:

1) In the title (and in other parts of the manuscript) you refer the comparison between "physician perception" and "objective data". However, I believe it is more correct to say "standardized
measures" instead, like it is correctly mentioned in several parts of the manuscript. The main reason is the TJC and even the SJC have some extent of subjectivity. Also, CDAI includes PhGA or EGA, which is not "objective" as well.

2) I know that the change is the designation of the discordant cases from "overstatement" to "negative" was performed after the comments of previous reviews. However, I do not feel that the current designation it is easy to follow:

"rheumatologist-negative" meaning underestimated remission
"rheumatologist-positive" meaning overestimated remission

Please reconsider this. May the underestimated and overestimated terms be used instead?

3) in the background, line 64-65, it is referred "two other composite measures based on laboratory acute-phase reactants...". This does not seems correct, mainly due to the word "based". The composite measures include a laboratory measure but are not "based" on it. They include other variables.

4) the objectives in the end of background are in past tense. Don't you agree that it reads better to say something like "We aim to explore factors associated with discordance" than "factors associated with discordance were identified"?

5) page 7, lines 136-144. Is would be enough to say that the DAS28(3v)-ESR were selected to maximize the number of patients OR to minimizing missing data. One is related to another. Lines 140-141 seem also unnecessary.

6) Authors compared "four cohorts". IS the term "cohort" the best one to use or "subgroups"?

7) the sentence in lines 174-178 is bit confusing; some of "patient characteristics" seem to belong to a different category, namely "treatment" or "doctor-patient relationship".
7.1. How was this "doctor-patient relationship" measured?

7.2. in line 188, not clear what "change in pain from worse ever to current pain" is? This is not the standard way to assess pain... Also, this appear firstly in the description of multivariate analyses.

8) when referring SJC and TJC, it would be more correct to refer SJC28 and TJC28

9) all variables assessed in the study (and meaningful) to it should be described in the methods section. Some variables only appear in results, namely BMI (line 212)

9.1. The examples/explanation about what "joint inflammation and damage" is appear only in the results (line 248): (e.g. destruction of cartilage, thinning of bone, and/or synovium inflammation).

10) in page 11, lines 229-232, missing data statistics are presented for the variables of CDAI. numbers for EGA is missing.

11) a p value <0.005 is mentioned in the manuscript. Usually, only the <0.05, <0.01 or <0.001 are used. Even if for many only one should be used (<0.05)

12) Page 12, line 255-257: "The absence of joint inflammation or damage was suggested by the multivariate and CDAI sensitivity analysis to be associated with Concordant/in remission as based on DAS28(3)-ESR-measured remission". This sentence is confuse.

13) Page 12, discussion, line 270-271 "Negative discordance was higher for the CDAI (35.6%) than the DAS28(3)-ESR (25.8%); this was likely due to the greater stringency of the CDAI than of the DAS28..."

The authors fail, in my perspective, the main reason for this. If the CDAI includes the "EGA/PhGA" this results is "expected".
14) Page 12, discussion, line 273-275. Not only Fibromyalgia might drive discordance. The studies cited include several other factors.

15) Line 304 - "the authors recognize this measure is used less frequently than DAS28(4)-ESR". I do not understand why? If the rate on non-PGA collection is so significant how do the DAS28(4v) used more frequently than the 3v?

16) line 309-310 - "only severity at diagnosis was shown to differ significantly between the groups, with included patients being more severe at diagnosis". This is presented only in discussion, not in results.

16.1. The Table in Suppl. 1 could have a column with p-values

17) Page 12, line 267 - "26.2% of patients relied on a composite disease activity score". The patients "relied"?

18) Figure 2 - Is it 102 or 101 rheumatologists?

19) Figure 3 - May only the discordant lines be in the graph? or present 2 graphs (one with discordant and another concordant). I do not see how the concordant could be useful to the reader.
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.

Yes

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I am able to assess the statistics

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