Author's response to reviews

Title: Depression and Anxiety in Patients with Rheumatoid Arthritis: Prevalence rates based on a comparison of the Depression, Anxiety and Stress Scale (DASS) and the Hospital, Anxiety and Depression Scale (HADS)

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Author's response to reviews: see over
Dear Professor Alam,

RE: MS: 574937495783477 - Depression and Anxiety in Patients with Rheumatoid Arthritis: A comparison of the Depression, Anxiety and Stress Scale (DASS) and the Hospital, Anxiety and Depression Scale (HADS)

Thank you and the reviewers for comments and suggestions regarding the above manuscript. Our responses are detailed below.

We appreciate that both yourself and Reviewer 1 drew attention to the significance of anxiety in RA and, as a consequence we have further highlighted this in the manuscript. We also appreciate Reviewer 2’s recognition of the significance of this study particularly in the context of RA and highlighting a few important points for clarification.

We believe that there are three key new contributions that our study makes:

(i) it is the first to co-calibrate HADS and DASS which showed that while there is a certain consistency in the measure of depression the same is not the case for anxiety;
(ii) it shows a significant difference (HADS-A indicated double the prevalence rate of DASS-A and a different ‘spread’ of item severity) across the two measures of anxiety, suggesting that those scales measure different aspects of anxiety; and
(iii) it shows there is a high level of co-morbidity of depression and anxiety in RA. Indeed there is a higher level of anxiety than depression, which we believe to be significant, as much recent research attention has rested with depression. As such we believe that this mental health co-morbidity on top of the physical morbidity is indicative of significant clinical complexity.

We have revised the manuscript to better highlight those key contributions.

Yours sincerely,

Alan Tennant PhD,
Professor of Rehabilitation Studies
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<th>Comments</th>
<th>Response</th>
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<tr>
<td><strong>Reviewer 1</strong></td>
<td></td>
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<td>I suggest the authors to change their focus</td>
<td>While it is true that much work has been done with depression in RA than anxiety, the significance of findings about anxiety are only evident in the context of presenting depression prevalence as well. It clearly shows that anxiety occurs at higher rates and there is a greater disparity in the way it is measured by the two scales. No one has co-calibrated HADS and DASS previously.</td>
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<td>Report the frequency of anxiety in RA, based on one scale.</td>
<td>It is the measuring with both scales that leads to important findings of differences between them (HADS showing double the rates reported by DASS). The level of variability across the two scales in relation to anxiety make a strong case for clinical diagnostic verification of these scales.</td>
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<td>Examine the correlates of anxiety in RA. e.g duration of disease.</td>
<td>This is outside of the focus/scope of this manuscript which is concerned with the usefulness of two common scales.</td>
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<td><strong>Reviewer 2</strong></td>
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| … it is not clear to me what the precise number is for the Australian sample, so I did wonder if what appears to be a small Australian sample is worth commenting on. For example to what extent does country of origin influence results? is this useful to know? and is it possible to assess for this? (given the apparent differences in sample sizes between the two countries). | Further details provided on pg 10 to clarify the sample size, which was almost equal at the baseline. Confirmation of analyses was then carried out on UK subsample collected at additional data points. Regarding countries comparison, no difference was found, as is stated on pg 11 (‘All were free of DIF by age, gender and country.’) under ‘Rasch Analysis’.
Both the sample size and the country factor are also highlighted in the Discussion section (pg 18 first paragraph). |
| A limitations section has been included and clearly states the main limitations. I am curious to know if the apparently small Australian sample is problematic in any way (see also comment above). | For the country (DIF) the samples sizes were more or less equivalent (baseline sample of 169 in total). |
| I did also wonder if mention of the work not covering sensitivity to change analysis should also be mentioned here? Having read the whole paper I can appreciate it was not an intended aim and so not within the scope of work undertaken for this manuscript, hence the authors mention this point only in the conclusion. The paper might, however, benefit from flagging this | Thank you for this point and yes it was not an aim of this study. We have added a point about this under the ‘limitations’. |
point earlier, either here in the limitations section or at the outset of the paper so that readers do not wonder whether this analysis has been forgotten or purposely omitted (as I did when reading the earlier sections of the manuscript).

| There are only a few minor typos and some minor points where clarity of expression could be enhanced. | We have checked the manuscript for those typos and clarity of expression. |