Reviewer’s report

Title: Alternative or complementary attitudes toward alternative and complementary medicines

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Reviewer: James Green

Reviewer's report:

This paper addresses a fascinating research question, looking at treatment preferences between ICHA and conventional approaches in chronic conditions; and then becomes even better, comparing illnesses with clear biological basis with more difficult to pin down.

Despite my excitement about the question, I have some real doubts about the legitimacy/validity of having people imagine that they have chronic illness. This is particularly problematic where participants were told of symptoms but that they would not normally be aware of if they had that illness (particularly for Schizophrenia, but also to a less extent recurrent depression). This is featured as a limitation, but I think it has be more heavily underlined. Relatedly, I think it would be better to describe these as hypothetical over 'virtual' (as I think virtual too much implies some sort of computer-based simulation). I still think that there is some useful information contained in this, but perhaps in future research it might be better to have participants consider that they were looking at treatments for a family member in their care, where they would actually be aware of the externally presented symptoms.

I also have some strong reservations about the analysis of the results. The coding of treatment preference is not clearly described in section 3.2. Perhaps a worked example would make it clearer, as I can't work out how the ranking of 6 treatments maps precisely onto the four patterns of choice.

Related to that, I wonder if it would be better to use belief in effectiveness of each treatment as a (quasi) continuous outcome. Ranking is not without its problems, as it does not allow people to have tied preferences, or to show the size of difference between preferences, in a way that a 4-point scale could allow a participant to rank 5 treatments as fully agree, and one treatment as disagree.

In a more technical fashion, I was just unable to follow the results, despite having a small amount of experience running Bayesian multilevel models. What software package, what sampling did you use for your Bayesian model? (JAGS?). You refer to both multilevel models and multinomial logistic regression models. Were these the same model, with a multinomial outcome in a multilevel model? Was there a covariance structure? You chose a normal distribution over the Student t distribution for your priors. Some of this information is perhaps beyond only the most interested reader, but I think should be recorded somewhere, even if it is just in supplementary materials.

I am further unclear on the results for specifically naming the condition (Conditions B1-B4).
Introduction lightly referenced. Both references to medical pluralism dramatically increasing are ~20 years old. There is plenty of more recent evidence of medical pluralism, and it is also very common throughout Low and Middle Income Countries. Switching between ICHA and conventional very common in many contexts; that is the preference is not stable over time. While I think the referencing of your own work was appropriate, it stands out in the context of the relative lack of other references.

More minor comments

1. Table 3 requires explanatory notes if left unchanged (and has too many decimal places, given that even with n = 2000, the margin of error/CI is still +/- 2.3%

2. Although panel members might be generally representative, they are still heavily self selected. A little more critical discussion

3. No mention of translation/language in which the questionnaire was administered.

4. Section 3.1 "four conditions" should be "eight"? 4 x 225 = 900 participants only

5. Section 3.3.2 "significantly more rare" sounds like frequentist rather than Bayesian talk.

6. Table 4. Rather than reporting Pr(OR>1) which requires quite a bit of work to interpret, would it be better to bold the OR column?

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?
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