Reviewer's report

Title: Exploring the feasibility of Conjoint Analysis as a tool for prioritising innovations for implementation

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Reviewer: Katharina KD Hauck

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Report for Manuscript 'Exploring the feasibility of Conjoint Analysis as a tool for prioritising innovations for implementation '

The authors present the results of a conjoint analysis to elicit the values that healthcare professionals attribute to various characteristics of health care interventions targeted at post-natal depression. The ultimate objective is to prioritize among alternative interventions.

Conjoint analysis has been developed for use in market research and product development. While it may be new to implementation science, it has been used for the evaluation of health care interventions or treatments since around 15 years. Conjoint analysis is of particular value to health economics and health policy analysis when the benefits of interventions also consist of important non-health components (e.g. factors related to patient experience, quality of service, etc) that are often difficult to evaluate with traditional approaches to economic evaluation. Usually, conjoint analysis focuses on the preferences of patients, whereas in this study, focus is on healthcare professionals.

I find it is valuable to introduce quantitative analysis methods to the field of implementation science that seems more dominated by qualitative methods, and therefore, I find both the application and the methodological approach of the paper novel in this context. I find however that the paper could be improved in several aspects.

1. There are other competing quantitative evaluation methods which are more widely used for quantitative policy analysis than conjoint analysis, mainly cost utility or benefit analysis, or programme budgeting and marginal analysis (PBMA), that the authors may want to mention, at least shortly.

2. While the paper is well written overall, the method section is unclear and difficult to follow even for a reader familiar with conjoint analysis, some examples:
   a. In stage 3: the authors should provide more detail on the experimental design that was used to reduce the possible scenarios to 16.
   b. It remains unclear whether in stage 4 (p. 8) preferences are elicited with ranking or pairwise choices of the 16 hypothetical scenarios? Pairwise choices are more common in CA, but it seems the study uses rankings, see table 3, but then, why do the authors refer to innovation A and B in table 6?
c. In stage 5, the specification of the model is unclear. In CAs that rely on pairwise choices, the model is estimated in differences between two alternative scenarios. Is this the approach here? The authors may want to write out the econometric model to make this clear.

d. Stage 6: the scoring of interventions is a subjective process, and may actually influence final results quite significantly. The authors may want to discuss this, or present some sensitivity analysis on the impact of different scorings on final results.

3. On page 10, the authors mention additional factors that are of importance. The authors should explain why are they not included as attributes/criteria in the CA?

4. Table 4 shows that 3 attributes/criteria do not vary across the 7 interventions (‘local health needs’, ‘local expertise’, ‘min standards’). If they do not vary they do not affect rankings, therefore, it is unclear why they are part of the exercise. The authors should explain.

5. The authors do not refer to the present standard of care. It is often recommended that this is included in the analysis as one scenario or interventions because it may affect valuations. Often, a treatment evaluated against standard care is valued differently than if evaluated against ‘doing nothing’. Also, interventions that are similar to present standard of care are often easier to implement than interventions that require high initial investments and a complete redesign of care delivery. This is an aspect that the authors may want to discuss, for example, it is considered by programme budgeting and marginal analysis.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

no competing interests.