Reviewer's report

Title: Innovations in Behavioral Health Coaching Using Goal-Setting Strategies: The HOPE Pilot Study Case Report

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Reviewer: Adrienne O’Neil

Reviewer's report:

The aim of the paper is to describe and examine an open trial for a newly created health coaching intervention (HOPE) aimed at improving outcomes among older adults with uncontrolled diabetes and comorbid clinically significant depressive symptoms. The paper is well written and the intervention is an important one given the prevalence of the co-morbidity of diabetes and depression. However, there are several major issues associated with the conclusions drawn from the results that have been presented in this paper. They largely relate to the study design, data and statistical analyses provided.

The authors conclude that HOPE demonstrated statistically and clinically meaningful improvements in diabetes control, depressive symptoms, and diabetes distress over a 6-month period. Listed below are the major concerns I have about these conclusions.

Major Compulsory Revisions

1) The small sample size on which these conclusions are based yield limited power from which to determine any potential intervention effects.

2) No information is provided describing sample size calculations which would be required to make a conclusion about “statistically meaningful improvements” of such a program. I understand that this is a feasibility trial which evaluates program acceptability, however without the power to detect changes in clinical outcomes (and in the absence of a comparator group), these conclusions cannot be drawn based on the existing data, methods and analysis presented.

3) No comparator group is provided with which to compare participant outcomes, nor is there process evaluation to determine feasibility of implementation, despite the following conclusions being made, based on data from 7 completing participants: “The pilot cohort completion rate indicates feasibility for implementation and execution of HOPE in clinical practice”

4) In the statistical analyses, no adjustments are made for confounding factors. In the case of a randomized study design where between-group imbalances are negated by the process of randomisation, this is acceptable, however with a non-randomized design, this is problematic.

5) Supplementing the quantitative data with qualitative is useful and provides a richer dataset, however, concluding that a program such as HOPES is feasible based on the limited number of enrolled and completing participants is
problematic.
6) Although some of these limitations are discussed at the end of the manuscript, not all are acknowledged.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

no