Reviewer’s report

Title: Dynamic LED-light versus Static LED-light for depressed inpatients: results from a randomized feasibility trial Title acronym: ROOM-LIGHT feasibility

Version: 0 Date: 13 Oct 2019

Reviewer: Stefan Perera

Reviewer's report:

Overall, interesting and informative feasibility study on important modality to treat depression (light therapy) that requires further investigation. Major limitation includes limited power and sample size and high relative attrition rate. Authors could work to share more information about how the challenges with generating adequate power, recruitment, and attrition will inform the larger trial. Moreover, more information and clarity is needed as to why the authors chose their primary outcome and secondary outcomes.

Major Comments:
1) The primary outcome for this study was the rate of discontinuation from the trial due to discomfort from the lighting conditions. Secondary outcomes were recruitment and dropout rates, visual comfort, depressive symptoms, and suicidal ideation. On page 5, lines 17-19, the authors cite evidence that light therapy has relatively few side effects with good ocular safety. If there is good evidence to support the safety and ocular safety of light therapy (albeit with light boxes), why is important for the rate of discontinuation from the trial due to discomfort from the lighting conditions to be the primary outcome. Can you please clarify why this was selected as the primary outcome especially considering that your results also reflected that discontinuing the trial due to discomfort from the light was not an issue (as expected). Are there other important factors that have not previously been proven among light therapy trials that could deter patients from participating that have not already been proven?

2) Page 6, lines 48-60, inclusion criteria includes both bipolar and unipolar depression. Have past trials combined these populations and is there any evidence to suggest why light therapy may be more or less effective for either unipolar or bipolar depression. May consider adding a line or two regarding the decision to include both in the introduction.

3) Page 9, line 24-26. Use of ceiling and reading luminaire was logged continuously by both groups. Did the participants themselves log this data? How was it logged. Could you please provide more information regarding this process.

4) Page 9, line 45-47. Who were the Hamilton raters (e.g. physicians, psychometrists, were they part of the research study?)

5) Page 13, line 52-57 "The high dropout at endpoint made outcomes difficult to interpret. The high dropout was primarily due to early discharge which might be related to a faster improvement." I would caution against alluding that the high drop out rate due to early discharge may be related to a faster improvement rate given the sample size, attrition, and other limiting factors to conclude any statistically significant association between early discharge and faster improvement.

6) Methods question. In regards to the lighting in the rooms and the setup of the trial, what were the
patients told? Were they blinded in anyway to the lighting set up (A vs B vs C)? Were they informed the lighting in their room was modified and given details about specific modifications?

7) Conclusions (page 14). In Figure 1 (CONSORT Flow Diagram), out of 38 individuals assessed for eligibility, 23 were excluded (17 due to meeting exclusion criteria, 1 for not meeting inclusion, 5 other, and 0 people declined). Line 17 on page 14 states a larger number of light equipped rooms would help to recruit more participants. How did you come to this conclusion? It seemed that a major barrier to recruitment was not finding enough participants meeting the inclusion/exclusion criteria.

8) Conclusions (page 14). What other methods will you implement to obtain endpoint assessments should patients be discharged?

9) Conclusions (page 14). A major limitation of this study is the sample size and lower power as mentioned. Further comment is needed regarding how this feasibility study informs the larger trial in regards to improving the overall power and recruitment.

10) CONSORT CHECKLIST item 7a, points to page 6 for rationale for numbers in the trial. Did not see much information regarding why the authors aimed for the numbers achieved in this trial. Please comment.

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Not suitable for publication unless extensively edited

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