Reviewer's report

Title: A Controlled Trial of the Litebook Light-Emitting Diode (LED) Light Therapy Device for Treatment of Seasonal Affective Disorder (SAD)

Reviewer: Richard Loving

Reviewer's report:

General
This manuscript is an exemplary report of a well designed and well executed clinical trial of the treatment of SAD with an LED light source device to test if higher energy light can be used at lower intensity and still be effective. The authors have reported their work thoroughly, questions that remain are minor. The corrections and suggestions included in this review are, for the most part, editorial points. The tables and graphs are well organized, clear and well discussed in the text without redundancy.

The researchers make a significant contribution to the field with this work. Clinical trials of greater than 2 weeks are much needed and desired in the field of light treatment at the current level of understanding. The authors deserve praise for their careful attention to participant safety, in particular, for their recognition of the potential opthalmologic damage from higher energy light sources. The well established safety of light treatment using standard light boxes might have led lesser researchers to overlook this risk. This work supports the safety of the LED devices designed with narrow spectral characteristics and higher energy wave lengths, an issue which is of concern to many scientists and clinicians.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

NONE

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. To comply with BMC editorial policy and for general respect to the participants in this trial, the authors should change "subject" and "subjects" to "participant" and "participants".

2. On page 5, Study Protocol, first paragraph, this sentence "Subject who appeared to meet incusion and exclusion criteria..." should be changed. Suggestion "Subjects who appeared to meet inclusion and not meet exclusion criteria..."

3. On page 7, Subjects, last paragraph, "Subjects were required to have...a habitual sleep end time before 9 A.M." It needs to be clarified if this was a candidate screening criteria and refers to habitual sleep time outside of the research protocol, otherwise there is potential for confusion regarding the (in protocol) requirement of a 30 minute treatment prior to 8 A.M.

4. On page 7, Treatment Devices, first paragraph, second sentence, there is a typographical error, "unblended clinician" should read "unblinded clinician".

5. On page 9, Results, second paragraph, line 4, "...10.8 years", there should be a closing parenthesis after "years". A similar correction is needed following "(85.7% versus 100%; in the active treatment group" , need a closing parenthesis here. Also this paragraph is a little awkward and would benefit from some rewriting.

6. On page 13, Discussion, paragraph five, "...observed by Terman et al [4]." this appears to be a reference error, reference 4 is Eastman et al.

7. On page 15, Acknowledgements, two suggestions:
"...analysis, interpretation..." rather than "...analysis or interpretation..."
please correct and confirm credential for Ms Stinson; correct to "B.Sc.N." or "B.S.N."

8. Reference 19, Horne and Ostberg, is missing the year of publication.

Discretionary Revisions (which the author can choose to ignore)

1. On Page 11, Results, paragraph 6, the first sentence would read more clearly if written as follows: "Times of self-reported sleep start, sleep midpoint, sleep end, and treatment start are shown in Table 2 for all participants who completed the trial, for the week before treatment, the first week of treatment, and the last week of treatment."

2. On Page 11, Results, paragraph 6, the observation of a shift to a later sleep end time between the first week and the last week of treatment, without a concurrent shift in sleep start time, for the active group and not for the control group is potentially important. It is suggestive of an increase in sleep duration due to an improvement in the condition of depression symptoms (one of which, of course, is sleep duration). Suggest mentioning this here or, more appropriately, in the Discussion section.

3. On page 12, Discussion, paragraph one, sentence one, last word, I would suggest that "confirmed" is too close to "proven" to be acceptable for the requirements of scientific scepticism. It is conventional for a hypothesis to be supported by data, not confirmed.

4. On Page 14, Discussion, last paragraph, first sentence, again, as above, I would suggest restraint of enthusiasm and suggest the use of "...supported the hypothesis that the Litebook LED device is significantly superior...", rather than "...showed that the Litebook device is superior...".

5. On page 14, Conclusions, three suggestions:

"...as percent of individual..." rather than "... as percent individual..."

"These results support the opinion that the Litebook device..." rather than "These results suggest that the litebook device..."

"... as clock time, or as time..." rather than "...as clock time or as time..."

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that some of the authors of this manuscript are scientific colleagues whose work I admire and respect. I have no other competing interests.