Reviewer's report

Title: High efficacy of a dimeticone-based pediculicide following a brief application: in vitro assays and randomized controlled investigator-blinded clinical trial

Version: 1 Date: 18 Jul 2019

Reviewer: Michael Marks

Reviewer's report:

There is a clear need for new treatments for head lice and this paper is therefore timely.

1) I was somewhat surprised that there was no mention of either topical or systemic ivermectin in the paper. Why was this omitted?

2) I would urge caution in Lines 79-89, whilst bacteria have been isolated from head lice in some studies this does not yet prove that they do in fact act as vectors for these agents.

3) Why were different concentrations of permethrin used for the in-vivo and in-vitro studies?

4) How was the sample size of the in-vivo study determined?

5) Given that both treatments achieved a cure of 100% I am bit confused as to what a non-inferiority analysis is meant to achieve? Can the authors explain? Given identical outcomes a non-inferiority assessment essentially is just dependent on the sample size (and therefore the width of the CI). I am not sure what this adds.

6) Line 429 - the distribution of the number of lice per person appears non-normally distributed (mean 1.7 +/–2, range 0-13) - it might be more appropriate to give the median and IQR. The same is true with regard to nymphal instars in table 2.

7) what is meant by a serious adverse device effect? is this a typo? or you mean this was related to the treatment? If so by what mechanism??

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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?
If not, please explain in your comments to the authors.

Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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