Reviewer’s report

Title: Comparative efficacy of three pediculicides to treat head lice infestation in primary school girls: A randomised controlled assessor blind trial in rural Iran

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Reviewer: Hesham M. Ahmad

Reviewer's report:

Comments to Authors
Manuscript with ID number "BDER-D-19-00008" entitled "Comparative efficacy of three pediculicides to treat head lice infestation in primary school girls: A randomised controlled assessor blind trial in rural Iran"

This manuscript is interesting. I hope that the following comments will help to improve the manuscript:

Background:
- Page 4, lines 42-44: Authors here mention that "The silicone chain then impedes the spiracles and tracheal system of head lice leading to their suffocation through anoxia and blockage of transpiration(19)". However, this mechanism of action of dimeticone has been questioned in previous publications (Ian F Burgess: The mode of action of dimeticone 4% lotion against head lice, Pediculus capitis. BMC Pharmacol. 2009; 9: 3.). Authors may discuss such debates.

Patients and Methods:
- Page 5, lines 49-50: Authors here mention that "This trial was a randomised controlled assessor blind trial …". Authors may explain how this trial was a "controlled one"; I could not find a control group!!
- Page 6, lines 48-49: Authors here mention that "A sample size of about 80 infested individuals was calculated to be enough for this trial". Authors should mention here how they determined that this sample size is enough for this trial. Indeed, a sample size of 24-27/group is still small sample size.
- Page 7, lines 15-17: Authors here mention that "During treatments, permethrin, d-phenothrin, or dimeticone shampoos were left to remain in place for 20 min, 8 h, or 8 h, respectively". Authors should explain here why they choose this duration of treatment application for each medication. is much shorter for permethrin. In addition, they should explain why the duration of treatment application was much shorter for permethrin. Authors should also provide a reference for each medicine's recommended duration of treatment application.

Discussion:
- Page 11, lines 4-6: Authors here mention that "Parasidose or d-phenothrin is not commonly present in drug stores, but it was recommended to be compared with other new products such as dimeticone lotion". Authors did not mention here which authority or reference has recommended this comparison. Please provide a reference.
- Throughout the work authors did not comment on the difference in ovicidal activity of the 3
studied medications. This is crucial for treating head lice as well as in evaluating the long-term efficacy and the risk of self-re-infestation even after initial apparent cure.

- Authors did not discuss the drawbacks of each medication used in the study.

Conclusion:

- Authors here mention that "This randomised controlled trial has demonstrated a superior efficacy of dimeticone lotion 4% to other pyrethroid-based preparations". This statement is not justified by the results of the present work. Based on the results of the present work there was no significant difference between the efficacy of dimeticone lotion 4% and d-phenothrin shampoo.

- Authors here mention that "It is therefore not recommended that permethrin-based shampoos be used for head lice treatment on Kavar primary school girls in the near future". This statement may be re-phrased to express the superior efficacy of dimeticone over permethrin and hence to recommend shifting form using the latter to use the former.

**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.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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