Reviewer's report

Title: A new dimeticone pediculicide (NYDA(R) sensitive) shows high efficacy in a comparative bioassay

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Reviewer: Takashi Tomita

Reviewer's report:

This work comparatively studied the efficacies of 6 pediculicides which are two 92% dimeticone formulations in sibling relationship, a formulation with lipids, two pyrethroid products, and a formulation with seed oils. The main objective is to confirm the consistent efficacy between two dimeticone formulations with and without inactive fragrance ingredient.

The results indicated equivalent and satisfactory efficacies for the two dimeticone formulations and these formulations look like a prominent advantage over the other test products. The techniques in dipping test seem to be steady. However, I feel short on interest as an academic paper by two reasons:

(i) The unchanged efficacy of fragrance-free dimeticone formulation seems to be overly natural (or trivial) because of the inactive nature of the fragrance and its lower rate of content. Moreover, there is no information on the "fragrance".

(ii) Why were the other four non dimeticone products picked up for the comparison in this study, how does this choice compensate for previous comparative studies in the light of demonstrating champion pediculicide(s) among currently available products.

Additional position or viewpoint in response to the above claims would be beneficial for the present study.

Major Compulsory Revisions:

1. Authors should show the percentage of the fragrance in the original NYDA(R) formulation and the names of chemicals involved in the fragrance in Methods section. Otherwise evaluation of this study would be unsettled.

2. Isopropyl myristate pediculicides are probably competitors to dimeticone products in some country like as in UK. Some reference to the efficacy of isopropyl myristate products is needed in Discussion part, in order to remind readers of best drug choice among currently available active ingredients for pediculicides.

Minor Essential Revisions:

3. Page 9_Line 20--P10_L1: I do not understand the logical construction in these sentences.

"it cannot be concluded if resistance is the cause for incomplete efficacy of
“Natural pyrethrum shows an acute knockdown but less eventual killing efficacy, compared with permethrin” might be a part of the answer. Headlouse population developed pyrethroid resistance mainly by insensitive insecticide nerve target and increased detoxification. The former mechanism was recently frequently reported worldwide. Why the author can pick up only a metabolic resistance mechanism, “increased detoxification”, at the last line of page 9?

**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:**

I declare that I have no competing interests.