Reviewer's report

Title: Making inroads into improving BV treatment - striving for long-term cure

Version: 2
Date: 24 May 2015

Reviewer: Melissa Herbst-Kralovetz

Reviewer's report:

Summary: Well written and timely review of BV provided by two well-recognized leaders in the field of Bacterial Vaginosis.

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. Suggest editing sentence in the first paragraph under Strategies to address potential reinfection… starting with “Male carriage of G.vaginalis…”. It is a run on sentence with many commas and awkward as written.
2. Check spelling in Figure 1, couples of words are misspelled.

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

There are a couple of areas that need a little more detail to provide to those readers that are not as familiar with this research area. To address this concern, the following additions are suggested.

- 1. At the end of the 4th paragraph in background section, expand on how the resident microbiota specifically differ from other animals (mice, NHP, etc) and humans.
- 2. In the second paragraph under Strategies to boost Lactobacilli, the authors should indicate the gut-specific Lactobacilli strains in addition to the vaginal-specific strains. At the end of the paragraph they should indicate what time point was measured following treatment.
- 3. In the third paragraph under Strategies to boost Lactobacilli, suggest rewording the “Current evidence sentence” unclear if both the Cochrane review and CDC do not support probiotics…if this is the case, reword to clarify this statement, unclear as written.
- 4. In the third paragraph under Strategies to boost Lactobacilli, are “colonizing” strains different from probiotic strain? Suggest consistency in terminology.
- 5. In the fourth paragraph under Strategies to boost Lactobacilli, for the second to last and last sentence, is this due to HC compliance? Also, behaviors is too vague in the last sentence, is this sexual behaviors? Please revise and be more specific as to what behaviors (sexual, feminine hygiene, etc).
- 6. Under New strategies to disrupt vaginal biofilm. A major concern for any vaginally-applied compound is safety, however this not addressed in this
paragraph. Please include the safety data; does Boric acid for example have a high safety profile? Is it relatively inert or does it cause changes in the epithelium, or is this not known? If the safety is known, is this for limited timeframes or for long-term use? Please expand.

- 7. Under New strategies to disrupt vaginal biofilm. Mentioning the mechanism of action for these biofilm disruptors if known would also strengthen this section. If not, then that should be mentioned as well. For example, what is the mechanism for boric acid alone and why are individuals investigating combining with EDTA as mentioned in the last sentence of paragraph 1 of this section? Does boric acid change the acidity of the vagina? What does EDTA do to the biofilm and to the vagina?

- 8. Under New strategies to disrupt vaginal biofilm. Again, what is the putative mechanism of action for RC-101 as a biofilm disruptor?

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

Missing Figures 3, 4, 5. These figures are mentioned in the text, however there are no figure legends for Figures 3-5 and no figures 3-5 provided with the manuscript, therefore unable to review/comment.

**Level of interest:** An article of outstanding merit and interest 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 I have no competing interests.