Reviewer's report

Title: Identification and characterization of vaginal lactobacilli from South African women

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Reviewer: Hans Verstraelen

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Bacterial vaginosis is highly prevalent in South- and East-Africa, and therefore a major factor in the acquisition and spread of pandemic STIs, making the study of the normal microbiota in these populations of particular interest. As a matter of fact it has been speculated that African populations might harbour more frequently less protective, poor hydrogen peroxide producing lactobacilli, though not supported by evidence at present. In fact, very few molecular based studies of the vaginal microbiota have been performed in African populations, making the present study by Pendharkar et al worthwhile.

My main concern is that the sample size of the study is rather limited and that no efforts were made to determine the hydrogen peroxide production of L. iners. The authors might comment on that in the Discussion section. Hydrogen peroxide production of L. iners has been reported more than 10 years ago, by Antonio et al (J Infect Dis. 1999 Dec;180(6):1950-6), when the species was still termed L1086V. Finally, it would omit the use of the terms “flora” and “microflora” and replace them with “microbiota”.

Otherwise this is an interesting paper.

Minor Essential Revisions

1. In the Abstract is stated that “The vaginal microflora of a healthy woman is dominated by L. crispatus, L. rhamnosus, L. gasseri, L. jensenii, and L. iners, ...” L. rhamnosus was actually a minor component of the vaginal microbiota in most studies ...

2. What is meant in the conclusion of the abstract with a “lesser level” in the expression“..., L. crispatus and to a lesser level, hydrogen peroxide ...” – on what statistical comparison was this statement based?

3. In the Background section it is stated that “BV is associated with an increased susceptibility to other sexually transmitted diseases, ...” – is BV an STD?

4. In the results section it is stated on page 8, lines 200-201, that “[L. crispatus] ... accounted more for healthy status compared to BV or intermediate microflora (Figure 2)” – on what statistical comparison was this statement based?

5. The authors state in the Discussion section: “However it is currently not known whether the production of H2O2 by lactobacilli is of clinical importance to prevent
BV”: that is only partially correct, and a number of studies have found that hydrogen peroxide production is inversely related with BV risk, see for instance Hawes et al. Hydrogen peroxide-producing lactobacilli and acquisition of vaginal infections. J Infect Dis 1996;174:1058–1063.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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.