

Lactic acid for the treatment of bacterial vaginosis and the impact of lactic acid-containing products on the vaginal microbiota: a systematic review

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Background:

The vaginal microbiota in bacterial vaginosis (BV) typically has low abundance of lactic acid producing lactobacilli. Lactic acid acidifies the vagina and has properties that may make it effective for treating BV and/or restoring an optimal lactobacillus-dominated vaginal microbiota.

Methods:

We conducted a systematic review to describe the effect of intravaginal lactic acid-containing products on BV cure, and the impact of these products on vaginal microbiota composition. We searched PubMed, Embase and OVID from inception to 04-11-2019 for eligible articles. Studies were considered eligible if they evaluated an intravaginal lactic acid-containing product and reported 1) BV cure using established diagnostic methods, and/or 2) vaginal microbiota composition using molecular methods.

Results:

Of 1,883 identified articles, seven met the inclusion criteria. Four articles evaluated a lactic acid-containing product for BV cure, and three evaluated the impact of lactic acid on vaginal microbiota composition. Seven different products were evaluated and

differed with respect to excipients, lactic acid concentration and pH. Most studies had medium or high risk of bias. Three trials compared the efficacy of intravaginal lactic acid alone to metronidazole for BV cure: one found lactic acid to be equivalent to metronidazole and two found lactic acid to be significantly inferior to metronidazole. Two trials included a control group receiving a placebo or no treatment: one reported lactic acid to be equivalent to placebo and the other reported lactic acid to be superior than no treatment. Intravaginal lactic acid did not significantly impact the vaginal microbiota composition.

Conclusion:

High-quality evidence supporting the use of lactic acid-containing products for BV cure or to modify the vaginal microbiota composition is lacking, however this is a poorly studied area of research. Adequately powered and rigorous randomised trials with high-resolution vaginal microbiota data are needed to evaluate the efficacy of lactic acid for BV treatment.

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