# THE ROLE OF LACTIC ACID IN THE MANAGEMENT OF BACTERIAL VAGINOSIS: A Systematic Literature Review

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## Objectives

- **Review of the efficacy and prophylactic potential of lactic acid** for BV alone or with antibiotics.
- **Propose additional treatment recommendations** based on clinical findings.

## Method

- **Systematic literature review** on PubMed and Cochrane Library databases from inception until 7 May 2021.

## Results

- 213 peer-reviewed studies identified
- 12 fulfilled inclusion criteria and assessed for eligibility
- **7 articles eligible** and included

### Efficacy of Lactic Acid

#### On symptomatic BV

**Mixed data**
2 studies = similar cure rates as metronidazole.
1 study = greater efficacy over placebo.
2 studies = no increase cure rates over placebo.

#### On recurrent BV

Intermittent prophylactic use of vaginal lactate gel was **significantly higher than placebo.**

#### During pregnancy

**After 2 days =** Positive change in the vaginal microbiota.
**After 1 week =** with 80% cure rate.

## Discussion

Variation in efficacy results might be partly due to generalization of the study population, **despite different grades of BV severity,** and the **administration route** and might indicate that an **alternative patient population stratification** is desired:

| Patient Group | Condition | Lactic Acid | Antibiotics | Antifungal |
|---|---|---|---|---|
| **First time BV** | Mild BV | Vaginal lactic acid, 5 mL, 7 days | No | No |
| | Moderate/Severe BV | Vaginal lactic acid, 5 mL, 7 days | Oral metronidazole, 7 days, or Vaginal metronidazole or clindamycin, 5-7 days | No |
| **Recurrent BV** | | Vaginal lactic acid, 5 mL, 7 days | Vaginal metronidazole, 4-6 months, or Oral metronidazole or tinidazole, 7 days | No |
| **Pregnant with BV** | Symptomatic | Vaginal lactic acid, 5 mL, 7 days | Oral metronidazole or clindamycin, 7 days, or Vaginal dequalinium, metronidazole, or clindamycin | No |
| | Asymptomatic and at high risk of preterm birth | Vaginal lactic acid, 5 mL, 7 days | No | No |
| **Planning pregnancy** | Asymptomatic mild BV | Vaginal lactic acid, 5 mL, 7 days | No | No |
| **Mixed infection** | BV and VVC | Vaginal lactic acid, 5 mL, 7 days, only if BV symptoms persist after VVC treatment | Only if BV symptoms persist after VVC treatment, and depending on the patient group | Vaginal clotrimazole, single dose |
| | BV and trichomoniasis | Vaginal lactic acid, 5 mL, 7 days | Oral metronidazole or tinidazole, single dose | No |

BV: Bacterial Vaginosis; VVC Vulvovaginal Candidosis.

## Conclusion

Although initial treatment with antibiotics is very effective, the prevention of BV recurrence remain an important challenge. **Concomitant usage of lactic acid-based treatments could provide added value by stimulating restoration of the healthy vaginal microbiota and disrupting pathogenic biofilms,** thereby aiding in the treatment of BV and prevention of recurrent infections.

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