ROLE OF VAGINAL PROBIOTICS IN ASSISTED-REPRODUCTIVE TECHNOLOGY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background

The vaginal microbiome may influence ART success, making probiotics a potential therapeutic strategy.

Objectives

To investigate the effect of intravaginal probiotics on assisted reproductive technology success.

Study Design

Data source:

Comprehensive literature search on PubMed and Embase from conception until January 01, 2024

Inclusion Criteria:

Studies were included if they evaluated the success of assisted reproductive technology with use of intravaginal probiotics as indicated by a positive pregnancy test or βhCG.

Outcomes and Measures:

Primary outcome: positive pregnancy test or βhCG

Secondary outcomes:

- Clinical pregnancy rate by ultrasound findings
- Live birth rate
- Miscarriage rate

Results

Figure 1. Forest plot of Associations Between Intravaginal Probiotics Use and Positive Pregnancy Test or BHCG Among 630 Participants

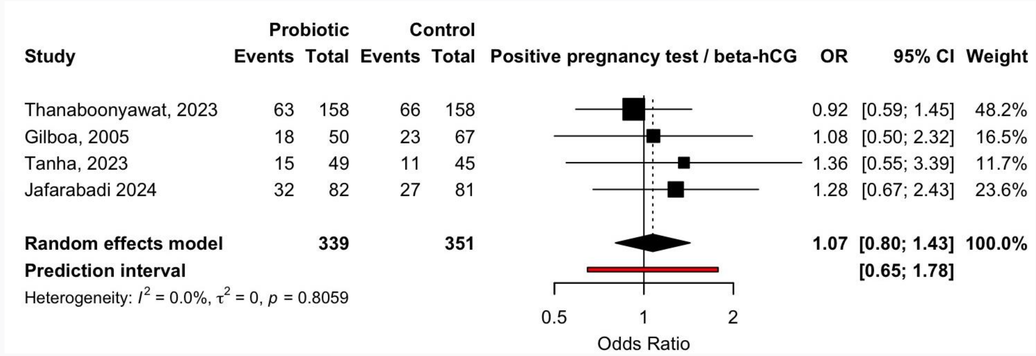
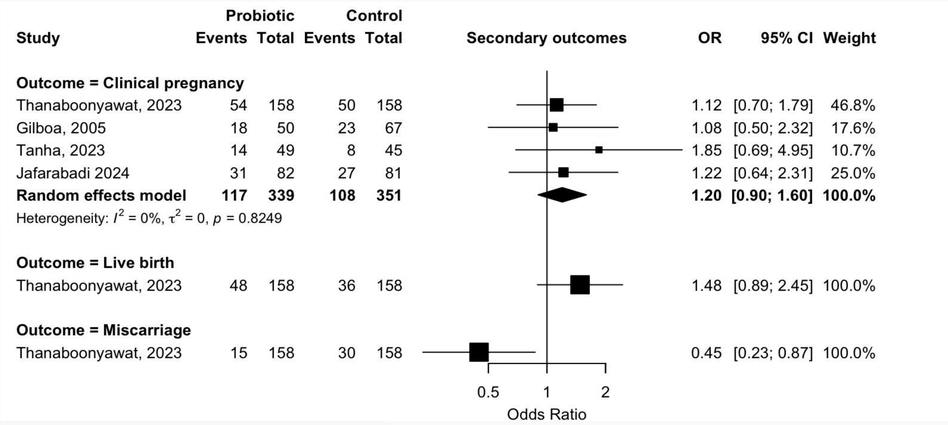


Figure 2. Forest plot of Associations Between Intravaginal Probiotics Use and Live birth, Clinical pregnancy, and Miscarriage rate



Study design (continue)

Analysis: Random effects meta-analysis was performed using Mantel-Haenszel odds ratios with 95% confidence intervals. Statistical heterogeneity was assessed using the I2 value

Results

In the 367 prenatal studies screened, four randomized controlled trials, including 690 participants, met eligibility criteria and were included.

Conclusion

Pooled analysis ***failed to demonstrate improvement in clinical or chemical pregnancy*** rates after administration of vaginal probiotics

Further research is warranted before recommending vaginal probiotics to patients undergoing assisted reproductive technology treatment