Background Women with bacterial vaginosis (BV) are at increased risk for sexually transmitted infections (STI), including Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (GC). Among women participating in a randomised trial of periodic presumptive treatment to reduce vaginal infections, we assessed the intervention effect on incident CT and GC infections.

Methods Non pregnant, HIV-uninfected women aged 18–45 from the US and Kenya were randomised to receive intravaginal metronidazole 750 mg plus miconazole 200 mg or matching placebo for 5 consecutive nights each month for 12 months. Baseline specimens were tested for CT/GC during the trial and follow-up specimens were tested after trial completion using the Aptima Combo-2 assay. Baseline STIs were treated according to local guidelines. Poisson regression models were used to assess the intervention effect on the outcomes separately and as a combined endpoint.

Results Of 234 women enrolled, 221 (94%) had specimens available for analysis (intervention n = 110; placebo n = 111). Baseline CT and GC prevalence was 7% (n = 16) and 1% (n = 3), respectively, and similar by arm. Among 205 CT- participants, there were 21 incident CT infections during 179.6 person-years (CT incidence = 11.7/100 person-years), with lower CT incidence in the intervention arm versus placebo (7.8/100 person-years versus 15.6/100 person-years; incidence rate ratio [IRR] = 0.50, 95% CI 0.20–1.23). Among 218 GC- participants, GC incidence was 7.2/100 person-years (14 infections during 93.3 person-years) and also lower in the intervention arm (5.2/100 person-years versus 9.3/100 person-years; IRR = 0.56, 95% CI 0.19–1.67). Results were consistent when CT/GC was estimated as combined endpoint (IRR = 0.57; 95% CI 0.27–1.19).

Conclusions This intervention, which significantly reduced BV over 12 months, may also reduce women’s STI acquisition risk. The small sample size in this secondary analysis precluded detection of significant associations, but generated point estimates for reductions in STIs that could inform the planning of future STI preventive trials.

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