**Effect of vaginal washing on lactobacillus colonization in HIV-negative Kenyan women**


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**Background** Vaginal washing has been associated with an increased risk of bacterial vaginosis (BV) and a decreased likelihood of vaginal Lactobacillus colonization. We sought to determine whether a lower prevalence of Lactobacillus colonization in women reporting vaginal washing was independent of the effect of BV.

**Methods** We conducted a cross-sectional study of 273 HIV-negative female sex workers enrolled in an open cohort study in Mombasa, Kenya. Vaginal washing and sexual risk behaviours were assessed using structured face-to-face interviews. Lactobacillus species were detected by plating vaginal swabs on both Rogosa and Columbia 5% sheep blood agars. We used tetramethylbenzidine agar subculture to assess H2O2-production. BV was detected by Gram stain. Log-binomial regression was used to assess correlates of Lactobacillus colonization, including vaginal washing, controlling for BV.

**Results** Two-hundred eighteen participants (80%) reported vaginal washing in the past week (median frequency per week = 14; range 1–35). Lactobacillus species were detected in 50/218 (23%) participants who reported vaginal washing versus 23/55 (42%) who did not report this practise. Similarly, H2O2-producing Lactobacillus species were detected in 13/218 (6%) participants who reported vaginal washing versus 10/55 (18%) who did not. After controlling for age, unprotected sex, and BV, vaginal washing was associated with a lower likelihood of any Lactobacillus (adjusted relative risk [aRR] = 0.55; 95% confidence interval [CI] 0.37–0.81) and H2O2-producing Lactobacillus (aRR = 0.33; 95% CI 0.15–0.73).

**Conclusion** Vaginal washing was associated with a lower likelihood of any Lactobacillus and H2O2-producing Lactobacillus species detected by culture. The results of our adjusted analysis suggest that the effect of vaginal washing on lactobacilli is not mediated entirely through the higher prevalence of BV associated with this...
practise. Prospective studies will be important to determine whether cessation of vaginal washing could improve vaginal health by promoting vaginal colonisation with Lactobacillus.