Vaginal bacteria modify HIV tenofovir microbicide efficacy in African women


More than 1 million women are infected with HIV each year, with the majority of new infections occurring in young African women. Antiretroviral-based clinical trials in men have sex with men have been proven effective in reducing HIV transmission, but these strategies have not been as successful in women. One reason for this difference could be the variability in adherence to HIV prevention strategies. In this study, we investigated whether vaginal microbial communities may affect the efficacy of antiretroviral-based prevention technologies, particularly those that are topically applied to the vaginal surface.

RESULTS

Vaginal microbiota modulated the efficacy of the topical tenofovir microbicide in CAPRISA 004. The rapid depletion of tenofovir by G. vaginalis and other BV-associated anaerobes may slow down the rate of TFV-DP production, which is a key intermediate in tenofovir pharmacology.

CONCLUSIONS & IMPLICATIONS

These findings provide evidence about the importance of vaginal microbial communities on prevention efficacy, which could help improve this HIV-specific prevention strategy for women.

REFERENCES