THE ART OF RESEARCH

What do African women's vaginal microbiomes tell us? Who knows?

Treating bacterial vaginosis in Africa is hindered as African women are disregarded in global vaginal microbiome research. African women need to be part of the picture.

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"Simplicity is the ultimate sophistication," said Leonardo da Vinci, and this aptly describes the theoretically ideal vaginal microbiome. In theory, the vagina should be a simple environment – acidic, having low diversity, and consisting almost exclusively of lactobacilli, the good" vaginal bacteria. This creates the greatest protection against pathogens. But things are rarely simple, and that's the reality for approximately a quarter of women worldwide, who have a condition called bacterial vaginosis (BV). Not only does this cause them discomfort and serious health effects, but treatments are often ineffective in clearing BV. African women face a disproportionate BV burden, but, counterintuitively, there is little representation of African women in global BV research.

While diversity in the vaginal microbiome is something to strive against, diversifying the microbiomes included in this research is necessary to address the BV burden worldwide. Kirsten Welp is a scientific officer in the Mucosal Infections Group (MIG) working as part of the VMRC4Africa project. This project aims to improve female reproductive health in Africa by focusing on BV treatment and prevention. Kirsten and the greater VMRC4Africa team are working to characterise the optimal microbiomes of African women to understand these ecosystems better. Previous work led to the identification of a novel bacterium from a South African woman, which produces more inflammatory endotoxin (lipopolysaccharide) than similar species in the vagina. This finding highlights the untapped pool of microbes in the African woman, and the valuable information that is lacking by low African representation in microbiome research. Additionally, including African isolates in probiotic development ensures that the women most afflicted by BV are being included in research efforts.

The diversification of global microbiome research requires collaboration and support, both locally and internationally, to better include African women and their microbes in the "microbiome" conversation. The hope is that by including African microbes in the research, African women will be better represented and helped by reproductive health research outcomes.

Diverse individuals unite to expand microbiome research and tackle the global burden of bacterial vaginosis.

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