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New research calls for better probiotics for vaginal health

Newly isolated strains of vaginal *Lactobacillus* bacteria perform better than those currently used in South African vaginal probiotics. This is according to recent research published by an international team led by the University of Cape Town (UCT).

Micro-organisms that live inside the lower reproductive tracts of healthy women – also known as the vaginal microbiome – play a key role in a woman's overall health. *Lactobacillus* species are the main type of bacteria found in the vaginas of healthy women that are thought to protect against sexually transmitted infections.

When the vagina's microbial balance is disrupted, though, it can lead to bacterial vaginosis. This causes uncomfortable symptoms, but also increases the risk of sexually transmitted infections, including HIV, and can sometimes lead to serious complications, including preterm birth and infertility.

Lactobacillus bacteria, which are the main type of bacteria found as part of a healthy vaginal microbiome, are beneficial in that they protect the vagina against infections. They do this by producing a mild acid – lactic acid – which lowers the vagina's pH, making it an unfavourable place for disease-causing micro-organisms to grow.

"Bacterial vaginosis is the most prevalent condition affecting reproductive health and HIV risk in South African women, and current standard-of-care – antibiotic treatment – does not lead to a durable cure," says Dr Jo-Ann Passmore from the UCT Division of Virology.

Although antibiotics are the standard treatment for bacterial vaginosis, most cases recur within six-months. Thus, probiotics have been explored as adjunctive treatment to improve cure and recurrence.

Yet most probiotics for vaginal health that are currently commercially available in South Africa do not contain the species of *Lactobacillus* bacteria commonly found in the vagina. Most strains used in probiotics were isolated more than 30 years ago, with a focus on gut – not vaginal – health, and none came from women from Africa.

"There is an urgent need to improve treatment outcomes in women with bacterial vaginosis, and *Lactobacillus*-containing probiotics are a promising approach," Passmore says.
The new research, which formed the basis of UCT postgraduate Anna-Ursula Happel's PhD, supervised by Passmore and done with collaborators, found that several of the vaginal *Lactobacillus* species performed much better in terms of their probiotic profiles than those in commercial products. This suggests that they could be harnessed to develop improved vaginal probiotics in South Africa.

"Making a vaginal probiotic with geo-adapted strains available to South African women might help improve reproductive health and associated adverse outcomes locally," says Happel.

The findings could mean more effective treatment for bacterial vaginosis, and a lowered risk of adverse outcomes for pregnancy and sexually transmitted infections, including HIV. The outcomes of this research could lead to better treatments and less recurrence, and ultimately, better health for women.

"Developing a women-friendly probiotic for reproductive health, that is acceptable and relevant to women in Africa, is the vision," concludes Passmore.

Read the full study.

Original story by Lisa Boonzaier

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