

High risk sex behaviors impact women's health

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High-risk sexual behavior like sex work may be biologically linked to an increased risk of acquiring human immunodeficiency virus (HIV) and other sexually transmitted infections (STIs), new research at McMaster University has found.

Women involved in high-risk sexual behavior have greater bacterial richness and diversity in their vaginas and a lower abundance of the protective type of bacteria, *Lactobacillus*, than the women who were not [sex workers](#), says the paper published in the journal *PLOS One*.

The research team was led by Charu Kaushic, professor of pathology and molecular medicine at McMaster University, and compared samples of vaginal microbiota of both women who were involved in sex work and those who were not sex workers in Nairobi, Kenya.

Kaushic said that, while many factors such as ethnicity, diet, and cultural background affect the vaginal microbiota, low diversity vaginal microbiota predominated by *Lactobacillus* species is associated with less risk of vaginal infections.

Diverse [vaginal microbiota](#), low in *Lactobacillus* species, is associated with an increased prevalence of STIs and HIV-1 acquisition.

"The tendency for sex workers to have a more diverse vaginal bacterial [microbiota](#) might put them at an increased risk for STIs, and be a biological reason why they are more susceptible to STIs," Kaushic said.

Dr. Kaushic's research is supported by the Canadian Institutes of Health Research and the Ontario HIV Treatment Network.

"Studies like ours are vital to the discovery and development of new and innovative prevention strategies against [sexually transmitted infections](#), particularly HIV-1", said Jocelyn Wessels, lead author of the paper and a post-doctoral fellow in Kaushic's lab.

"This type of work is significant, as AIDS-related illnesses have resulted in an estimated 35 million deaths since the start of the epidemic

More information: Jocelyn M. Wessels et al. Association of high-risk sexual behaviour with diversity of the vaginal microbiota and abundance of *Lactobacillus*, *PLOS ONE* (2017). [DOI: 10.1371/journal.pone.0187612](#)

Provided by McMaster University

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