Fresh or Foe: The Impact of Body Deodorants on Lactobacillus

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Whole-body deodorants are widely used, yet their impact on the vaginal microbiome is unknown. Many contain antibacterial components that may disrupt Lactobacillus, the dominant bacteria of the vagina responsible for lowering pH and preventing pathogen invasion. Reduced Lactobacillus levels are linked to many adverse health consequences. This study hypothesizes that probiotic or Lactobacillus-containing deodorants will increase Lactobacillus colonies, while others will inhibit them. To test this, a zone of inhibition test was performed by placing deodorant samples on a Lactobacillus field and incubating at 37°C for 24 hours. Growth inhibition was measured by the radius of clear zones that appeared. Next, a turbidity test was conducted. Deodorants were mixed with liquid Lactobacillus cultures, incubated for 48 hours at 37°C, and optical density was measured frequently over this period to generate graphs displaying growth over time. Gram-stains were conducted at the end of this test to assess any changes in cell morphology. No inhibition was observed in the zone of inhibition tests, but the turbidity test showed a significant drop in growth for deodorant 2. The probiotic brand performed slightly worse than the control. Additionally, the gram stains showed no morphological changes. These findings suggest certain deodorant formulations may harm the vaginal microbiome. The decreased Lactobacillus growth in the presence of deodorant 2 indicates an inhibitory effect, warranting further research to identify harmful ingredients.

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