Lubes May Damage Cells, but Do Not Raise HIV Risk

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While many personal lubricants may irritate vaginal and rectal tissues, they do not increase the risk of HIV transmission—at least in test tube experiments with vaginal cells—according to a recent study published in PLoS ONE, aidsmap reports.

Researchers from the University of Pittsburgh and the Fred Hutchinson Cancer Research Center in Seattle tested 14 of the most popular brand-name water- and silicon-based lubricants. The key to cell damage was in the lubricant's delicate balance of certain salts, carbohydrates and proteins, and how that concentration compares with the amounts commonly found in vaginal and rectal cells. A concentration that is too high (which is called hyperosmolarity) causes the lube to draw water out of cells, making them brittle. A level too low (hypo-osmolarity) causes the human cells to absorb excess water and burst. The lubes with balances the same as the vaginal or rectal cells—also known as iso-osmolar lubricants—did not damage the cells. Meanwhile, water-based hyperosmolar lubes proved the most damaging.

Next the scientists exposed the vaginal cells to HIV and found that the addition of personal lubricants did not increase transmission risk. Study results on rectal tissues are forthcoming.

These findings are limited by the fact that this was a laboratory study and can't be replicated in humans. Its authors caution that much research is still needed to understand personal lubricants' safety and that the jury is out as to whether hyperosmolar lubes in particular cause significant enough cell damage to facilitate HIV transmission.

To read the aidsmap story, click here.

To read the abstract of the study, or to download a PDF of the full paper, click here.

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