

# Vaginal douches may expose women to harmful phthalate chemicals

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Women who use feminine care products called douches may increase their exposure to harmful chemicals called phthalates—and black women may be at particularly high risk due to frequent use, according to a study published today in the journal *Environmental Health*.

"This study suggests, for the first time, that vaginal douches may increase a woman's exposure to phthalates, chemicals that may alter hormone action and are associated with serious health problems," says senior author of the study Ami Zota, ScD, MS, an assistant professor of environmental and occupational health at Milken Institute School of Public Health (Milken Institute SPH) at the George Washington University. "These findings raise questions about the health and safety of vaginal douches and other fragranced products used in and around the vaginal area."

Zota and other scientists at Milken Institute SPH led the study which includes a coauthor from the University of California, San Francisco (UCSF).

Public health officials advise against the use of douching products, which can hide vaginal infections and lead to other serious health problems. Despite that, douching products are still a popular item on the drug store shelf, and are disproportionately used by black women. The new study adds a new health twist to the already long list of problems connected with these products, the authors say.

Phthalates are found in many personal care items found in drug stores, and are associated with many health problems, including developmental and behavioral issues in children who have been exposed in the womb. One type of phthalate in particular—diethyl phthalate (DEP) is used in products to retain a fragrance. And since many feminine care products, including tampons, sanitary napkins and commercial douches, contain

fragrance they may be an unrecognized source of exposure to phthalates—especially for women of reproductive age, Zota says.

Yet scientists have not looked at feminine care products to see if they expose women to this class of chemicals. To address that gap in the research, Zota and her colleagues studied 739 women age 20 to 49 who had participated in a national survey and had answered questions about their use of feminine hygiene products. The researchers knew that phthalates can be absorbed through the thin skin in the vagina and once in the body are excreted as metabolites. So the researchers also looked for phthalate metabolites in urine samples collected from the study participants.

Zota and her colleagues found that douching was associated with higher urine levels of a metabolite of the phthalate DEP. In fact, women who reported douching in the past month had 52 percent higher urinary concentrations of this metabolite compared to women who never used these products.

Zota and colleagues also found a dose-response relationship between frequency of douching and phthalate body burden. Women who douched frequently had the highest exposure. Zota and her colleagues found that women who reported using these products two or more times a month had 152 percent higher urinary concentrations of the DEP metabolite than non-users.

Black women appear to be at higher risk for phthalate exposure because they report using douching products more often than white or Latino women. Nearly 40 percent of the black women in this study reported douching in the previous month compared with just 14 percent and 10 percent of white or Mexican American women, respectively.

And this study confirms other research which shows that black women tend to have higher concentrations of the DEP metabolite in their urine.

That finding raises the concern that [black women](#) may be at increased risk of health problems due to phthalate exposure, Zota says.

This study did not directly tie phthalates in douching products to health problems in women—additional research will have to make that direct connection, Zota says. Still, the research did find that vaginal douching may increase a woman's exposure to DEP and that's a troubling finding that needs to be explored further, she says.

The American College of Obstetricians and Gynecologists and other health experts recommend against douching because this practice has been associated with increased risks of vagina infection, pelvic inflammatory disease, problems during pregnancy and sexually transmitted diseases. Now, this study adds the worry that douching may also expose women to chemicals that can lead to [health problems](#) later in life or can harm their developing baby—if [women](#) are pregnant while using such products.

"This study offers another piece of scientific evidence that shows why we need to know more about chemicals and their health risks before they get into our bodies," said Tracey Woodruff, professor of obstetrics, gynecology and reproductive sciences at UCSF and a coauthor of the study. "It's critical that we have public policies to ensure that the products marketed in the United States are safe."

The study looked at associations between phthalates and six different types of feminine hygiene [products](#), including tampons, sanitary napkins, feminine sprays and wipes, but only found an association with vaginal douches.

**More information:** The study, "Vaginal douching and racial/ethnic disparities in phthalate exposures among reproductive-aged women: National Health and Nutrition Examination Survey 2001-2004," was published in the journal *Environmental Health*.

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