Title
Reducing Everyday Exposure to Toxic Chemicals in Personal Care Products Can Improve Women's Health

Journal
Policy Briefs, 2017(23)

Author
Arriola, Isa

Publication Date
2017-05-01

Peer reviewed

REDUCING EVERYDAY EXPOSURE TO TOXIC CHEMICALS IN PERSONAL CARE PRODUCTS CAN IMPROVE WOMEN'S HEALTH

BY ISA ARRIOLA

Many of the chemicals found in cosmetics have endocrine-disrupting properties.

Chemicals have become part of our everyday lives, whether they sit in waste sites, in chemical plants, or float in the air. Because public knowledge about the dangers of chemical exposure is often linked to large-scale, dramatic events such as chemical spills or industrial explosions, we are more likely to be concerned about swimming in water near an oil spill than slathering our bodies with lotions and fragrances. Yet, research shows that our exposure to petrochemicals and other toxins can occur in other, less dramatic ways in our daily lives. Increasing awareness of the dangers in exposures to chemicals in certain products like lotions, deodorants and nail polish has led to an increased interest in the use of non-toxic personal care products. These concerns are especially pertinent for women who are pregnant and at higher risk of adverse health consequences related to the exposure of chemicals that lack adequate safety data.

ACCORDING TO THE Harvard School of Public Health, people in the U.S. are, on average, exposed to more than one hundred chemicals daily from the use of personal care products (Roeder 2014, n.p.). As part of its Biomonitoring Program, the Center for Disease Control and Prevention has discovered that 265 environmental chemicals were present in the blood and urine samples of individuals included in the National Health and Nutrition Examination Survey (CDC 2014). This type of exposure "has been linked to rising rates in breast cancer, asthma, autism, reproductive problems, and other health issues" (Roeder 2014, n.p.) and can compound over time. Even worse, is that multiple exposures to different chemicals can increase the chance of adverse effects as opposed to "exposure to an individual chemical" (Woodruff et al. 2011:878). Many of the chemicals found in products such as "…air fresheners, hair dyes, cosmetics and sunscreens" contain endocrine-disrupting properties that are linked to the overall increase in the "incidence and prevalence of diseases…such as breast, prostate, and testis cancer, diabetes, obesity, and decreased fertility over the last 50 years" (Decoster et al. 2012).

According to the National Institute of Environmental Health Sciences, endocrine disruptors are "chemicals that may interfere with the body's endocrine system and produce adverse developmental, reproductive, neurological, and immune effects in both humans and wildlife." One of the most pervasive endocrine disruptors is Bisphenol A (BPA), a chemical compound commonly found in canned goods, plastic bottles, disposable drink containers and a host of other items we commonly come into contact with in our daily lives. Humans are exposed to endocrine-disrupting compounds or EDCs during "ingestion of food, dust and water, via inhalation of

gases and particles in the air, and through the skin." Furthermore, these compounds "can also be transferred from the pregnant woman to the developing fetus or child through the placenta and breast milk" (World Health Organization, n.d.). Therefore, exposure to EDCs in personal care products by women, especially pregnant women, is of particular concern since exposure to chemicals in early fetal development "can increase the risk of adverse health consequences, including adverse birth outcomes (e.g., preterm birth and birth defects), childhood morbidity (e.g., neurodevelopmental effects and childhood cancer), and adult disease and mortality (e.g., cancer and cardiovascular effects)" (Gluckman and Hanson 2004; Stillerman et al. 2008 in Woodruff et al. 2011:878). These facts put women who are pregnant at higher risk than the general population.

Recognizing the risk that chemicals pose to women's health, organizations such as the Breast Cancer Fund are urging women to use personal care products that have simpler, chemical-free ingredients that are also fragrance-free, since many products that include fragrances often contain synthetic ingredients that can disrupt hormones. Products that contain the generic label of "fragrance" are often composed of a "complex and proprietary mix of industrial chemicals" that are "unstudied and largely unregulated" (Rauch, n.d.). Some chemicals, such as phthalates, are not included in labels (Barrett 2005:113) by certain companies. Regulations in the U.S. do not require health studies or pre-market testing of the chemicals in personal care products that are classified as "cosmetics." Because the Food and Drug Administration (FDA) only regulates products such as drugs, biologics, and medical devices, it becomes the responsibility of the "companies and individuals who manufacture or market cosmetics" to "[substantiate] the safety of their products and ingredients before marketing." Manufacturers therefore, have little incentive to study the long-term exposure risk of their products, especially since manufacturers are "tied to the profits [of] chemical sales" (Madsen and Hitchcock 2011:1). Increasingly, public knowledge about the dangers associated with chemical exposures from personal care products is becoming more accessible. This is evident in the growing number of organizations who have taken the initiative to inform consumers about the possibility of chemical exposure from cosmetics. The Environmental Working Group (EWG), for example, has an online cosmetics database entitled "Skin Deep" which categorizes products by the types of toxins they contain to increase this awareness.

RECOMMENDATIONS

Currently, the Federal Food, Drug and Cosmetics (FD&C) Act does not require premarket testing of cosmetics "with the exception of color additives" (FDA 2013). In order to reduce the negative effects associated with exposure to toxic chemicals in personal care products, the FDA should require rigorous premarket testing before adverse effects of cosmetic use occurs as a way to ensure the safety of the general population. Furthermore, although the FDA encourages companies to register their chemical formulations in their Voluntary Cosmetics Registration Program (VCRP), this level of compliance is not obligatory. The FDA should therefore require companies to register their chemical formulations and make cosmetic ingredients publicly available in order to increase transparency for consumers to make more informed decisions.

Lastly, further research is needed to identify the detrimental effects of repeated exposure to toxins. Such research should also address when and to what effect exposure to multiple chemicals has on human bodies, especially during fetal development since "exposure to multiple chemicals that act on the same adverse outcome can have a greater effect than exposure to an individual chemical" (Woodruff 2011:878). Because levels of toxicity found in personal care products can compound negatively over time, there is a critical need for longitudinal research that charts out the health consequences of chemical exposure to products over long periods of time.

Isa Arriola *is working towards obtaining a PhD in sociocultural anthropology at UCLA. Her research focuses on the intersections of indigeneity, militarism and the environment. Specifically, she is researching the strategic role that the Mariana Islands have played in securing U.S. Military interests in Oceania. Her work aims to elucidate how the process of militarization continues to inform the contemporary cultural and political realities of the indigenous Chamorro people of the Marianas. Critical to her research, is the use of ethnographic methods to examine the way in which the politics of nature and conceptions of the physical environment inform the growing process of militarization.*

REFERENCES

Are all "personal care" products regulated as cosmetics? (n.d.). Retrieved May 22, 2016, from https://www.fda.gov/aboutfda/transparency/basics/ucm242716.htm

Barrett, J. R. (2005). Chemical Exposures: The Ugly Side of Beauty Products. *Environmental Health Perspectives*, 113(1), A24.

Campaign for Safe Cosmetics. (n.d.). Timing of Exposure. Retrieved from http://www.safecosmetics.org/get-the-facts/healthandscience/timing-of-exposure/

Center for Food Safety and Applied Nutrition. (n.d.). Laws and Regulations. Retrieved from https://www.fda.gov/Food/default.htm

Choose Safe Cosmetics. (n.d.). Retrieved from https://www.bcpp.org/our-work/tips-for-prevention/personal-care-products/

De Coster, S., & van Larebeke, N. (2012). Endocrine-Disrupting Chemicals: Associated Disorders and Mechanisms of Action. *Journal of Environmental and Public Health*, 2012, e713696.

Endocrine Disruptors. (n.d.). Retrieved April 19, 2017, from https://www.niehs.nih.gov/health/topics/agents/endocrine/

Environmental Working Group. (2011, April 12). Why this matters - Cosmetics and your health. Retrieved from http://www.ewg.org/skindeep/2011/04/12/why-this-matters/

Madsen, T., & Hitchcock, E. (2011). *Growing Up Toxic: Chemical Exposures and Increases in Developmental Disease.* U.S. PIRG Education Fund. Retrieved from http://www.uspirg.org/sites/pirg/files/reports/Growing-Up-Toxic.pdf

National Health and Nutrition Examination Survey. (n.d.). Retrieved April 19, 2017, from https://www.cdc.gov/nchs/nhanes/

Rauch, M. (2011, November 3). What are the health hazards of exposure to fragrances in consumer products and cosmetics? How can our regulatory system effectively address such hazards? Retrieved from http://www.psr.org/environment-and-health/environmental-health-policy-institute/what-are-the-health-hazards-of-fragrances.html

Roeder, A. (2014, February 13). Harmful, untested chemicals rife in personal care products. Harvard T.H. Chan School of Public Health News. Retrieved from https://www.hsph.harvard.edu/news/features/harmful-chemicals-in-personal-care-products/

Wilson, M. P., & Schwarzman, M. R. (2009). Toward a New U.S. Chemicals Policy: Rebuilding the Foundation to Advance New Science, Green Chemistry, and Environmental Health. *Environmental Health Perspectives,* 117(8), 1202–1209.

Woodruff, T. J., Zota, A. R., & Schwartz, J. M. (2011). Environmental Chemicals in Pregnant Women in the United States: NHANES 2003–2004. *Environmental Health Perspectives,* 119(6), 878–885.