

Picking Safe Personal Care Products

Anne Johnson: Welcome to Environmental Health Chat, a podcast about how the environment affects our health, from the National Institute of Environmental Health Sciences Division of Extramural Research and Training. I'm your host Anne Johnson.

[Roman music] In Ancient Rome, the most glamorous ladies would start the day with a heavy application of lead-based makeup, slowly poisoning themselves in the process. We've come a long way since then, right?

Or have we?

More and more, scientists and consumer advocates are raising concerns about the ingredients in modern-day makeup and the many other products we put on our bodies each day.

Today's first guest is Kyla Taylor, an epidemiologist at the National Toxicology Program at NIEHS. She works on the NIEHS Sister Study, a large study of the environmental and genetic risk factors for breast cancer. Among many other types of exposures, the Sister Study is tracing potential health risks of using what are broadly called personal care products.

Taylor: Personal care products include all products that are used by an individual for the purpose of hygiene or cosmetic reasons, so basically it refers to any product that you would use on your face, body, hair, or nails.

Johnson: The average American woman uses about 12 of these products each day, translating to 126 different chemicals, according to estimates from the Environmental Working Group, a research and advocacy organization.

These products aren't made of lead like in the days of Ancient Rome. But that doesn't necessarily mean they're safe. Our second guest, Ruthann Rudel, is a toxicologist and director of research at the Silent Spring Institute, a community-based breast cancer research organization funded in part by NIEHS. Ruthann told me why personal care products are of concern to environmental health researchers.

Rudel: Personal care products are complex mixtures, often of many different chemicals. There are concerns about endocrine disruption or hormone disruption, and also about other health effects including respiratory irritation or possibly as asthma triggers. And there are other chemicals, like formaldehyde for example, that are identified as potential carcinogens. There are really a range of health effects associated with chemicals that are used in personal care products.

Johnson: Endocrine disruptors are one of the main concerns. In particular hair products marketed to African American women are coming under a lot of scrutiny. Some of these are formulated with actual hormones like estrogen and placental hormones. These are linked with early puberty and abnormal breast development and could possibly contribute to cancer. Other products that are marketed more broadly contain chemicals that mimic the body's hormones, contributing to changes in the reproductive system, metabolism, and brain development. Triclosan and triclocarban are two endocrine disruptors

often found in soaps that are labeled antimicrobial or antibacterial. Phthalates, found in a huge variety of things including deodorant, hair products, and nail polish are also a concern, as are parabens, often used as a preservative in shampoos, lotions, sunscreens, and cosmetics.

Rudel: We know that these chemicals are being taken into the body because the biomonitoring of the U.S. population shows most people have levels of sunscreen chemicals, triclosan, phthalates, and parabens in their urine or blood.

Johnson: That evidence comes from routine biomonitoring studies conducted by the Centers for Disease Control and Prevention that assess environmental chemicals in people's bodies.

It's clear that the chemicals in personal care products can get into your body. You can absorb them through your skin, inhale them through a spray or the steam in your shower, or inadvertently ingest them.

What's less clear is whether the level of these chemicals in our bodies is actually harmful. Kyla Taylor explains why.

Taylor: There's really limited scientific information on adverse health effects in humans and it's really difficult to study these chemicals in humans. Animal studies are great for us to see how these chemicals work and if there is any effect, but most animal studies focus on individual chemicals, usually at high doses or over a short period of time, and the difficulty with humans is that humans are exposed to mixtures of these chemicals at lower doses, over really long periods of time. So it is difficult to interpret how these animal study findings are applicable to humans.

Johnson: So if there's insufficient data and disagreement even among scientists, what are the rest of us supposed to think?

Rudel: I think people don't quite understand how difficult it is to answer the question of whether this amount of exposure is safe or not. But many people once they are aware of the potential risks seek to reduce their exposures to these chemicals based on the fact that we know they can affect systems in animal studies.

Johnson: So if you're concerned about limiting your exposure, there are a few simple steps you can take.

First, read labels. Look for products labeled "fragrance-free" to avoid the biggest respiratory irritants. Try to avoid phthalates, parabens, estrogens, placental hormones, triclosan, and triclocarban.

There are also some databases online to help you see what the research says and find products that don't contain problematic chemicals.

That said, labels aren't always accurate. Studies by the Silent Spring Institute have found phthalates are almost never included on labels, and some products are often mislabeled. Some products labeled "paraben-free," for example, have been found to actually contain parabens.

So the second bit of advice is to cut back on the number of products you use. It's not always realistic to expect people to change their habits entirely. But where you can, try to eliminate products or use simpler products that contain fewer ingredients.

Finally, limit the use of these products by young children and adolescents. Their bodies are the most sensitive to endocrine disruptors and other chemicals, and limiting their exposure now could have significant health benefits in the long term. Women who are pregnant may also want to limit their use of these products, since certain chemicals have the potential to cause long-term health effects in the developing baby.

Thanks to today's guests Kyla Taylor of the National Toxicology Program and Ruthann Rudel of the Silent Spring Institute.

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