

# Use of Beauty Products Among African American Women: Potential Health Disparities and Clinical Implications

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## ABSTRACT

Skin and hair care products may be a potential source of toxic chemical exposure that disproportionately affects skin of color patients. African American women may have increased exposure to endocrine-disrupting chemicals, as they are more likely to use personal care products such as chemical straighteners and relaxers. While studies on the association between beauty product use and certain diseases have shown variable findings, recent research has highlighted the potential increased risk of breast cancer among women who use certain hair products. The potential toxicity of beauty product-related chemicals has led women's health providers to issue a call to action to identify and reduce patient exposure to these agents. We call for further research to better characterize the potential systemic effects of beauty products, especially those targeted toward skin of color individuals.

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## INTRODUCTION

Skin and hair care products may be a potential source of toxic chemical exposure that disproportionately affects skin of color patients.<sup>1</sup> Recently, much debate has focused on the "clean beauty" movement, which promotes the use of so-called natural or organic ingredients, and avoidance of suspected or proven toxic compounds.<sup>2</sup> Concurrently, there has been a shift towards embracing more natural hair styles in the African American (AA) community. Sales of hair relaxers marketed to black women decreased by 40% between 2008 and 2015.<sup>3</sup> Conversely, the sales of shampoo, conditioner, and styling products marketed for natural hair are increasing. Between 2013 and 2015 alone, sales of natural hair styling products increased by 27%, now comprising 35% of the AA hair care market.<sup>3</sup> Although this is believed to be a positive shift in the AA beauty market, this brief communication highlights that there is a paucity of research on potential toxicities of beauty products, and how increased exposure among AA may contribute to health-related disparities.

African Americans comprise 13% of the U.S. population yet they yield significant spending power, accounting for 22% of the \$42 billion personal care products market annually.<sup>1</sup> AA women aged 18–34 are considered "heavy buyers," purchasing more than ten types of beauty products per year.<sup>1</sup> Research has demonstrated that AA women have higher levels of parabens and phthalates, common preservatives found in beauty products, in

their bodies compared to Caucasian women.<sup>3</sup> Additionally, AA children have been found to have five times the urinary paraben level compared to their Caucasian counterparts.<sup>3</sup> The use of endocrine-disrupting chemical containing beauty products such as chemical relaxers in AA girls begins as early as age 4–8, and has been proposed as a risk factor for premature sexual development.<sup>1</sup> Despite these correlations, definitive conclusions cannot be made about the systemic absorption and effects of topical beauty product use.

Increased chemical exposure from ethnic skin and hair care products may be driven partially by targeted marketing, which has created vulnerable consumerism among the historically underserved AA population.<sup>1</sup> Targeted marketing exploits European beauty norms to influence AA consumers.<sup>1</sup> This type of targeted racial marketing is reminiscent of the marketing of methanol cigarettes that occurred in low-income inner city AA neighborhoods, which created a racialized geography of tobacco-related health disparities.<sup>1</sup> The influence of marketing on the sales of hair straighteners and skin lighteners has been evaluated.<sup>1</sup> In a study that analyzed the marketing of skin lighteners in Harlem, researchers concluded that advertisers associated lighter skin tone with greater educational attainment and employment earnings.<sup>1</sup> This societal pressure also exists in the workplace, as AA women are twice as likely as Caucasian women to experience work-related pressure to straighten their

hair.<sup>1</sup> Historically, the U.S. army banned several hairstyles used by AA women such as twists and braids, in favor of styles that encouraged straightening.<sup>1</sup>

The influence of societal discrimination on beauty product use in the AA population may contribute to health disparities.<sup>1</sup> AA women, who are more likely to use chemical straighteners and relaxers, may be exposed to endocrine-disrupting chemicals in hair products.<sup>1,3</sup> Data has demonstrated in vitro estrogenic and anti-estrogenic activity of these products, but further studies are warranted to investigate in vivo activity.<sup>3</sup> Previous studies on the association between hair product use and breast cancer have shown inconsistent results; however, a large national prospective cohort study recently yielded significant results.<sup>1,3,4</sup> The study enrolled 50,888 participants with no history of breast cancer but had a sister with breast cancer.<sup>4</sup> The association between hair dye and chemical relaxer/straightener use and breast cancer risk was examined by ethnicity.<sup>4</sup> Permanent hair dye use was associated with a 45% higher breast cancer risk in black women and a 7% higher risk in white women.<sup>4</sup> Hair straightener use was associated with breast cancer, with higher risk associated with increased frequency.<sup>4</sup> Frequency varied by ethnicity with 74.1% of black women reporting any use, compared to only 3.0% of non-Hispanic white women.<sup>4</sup> These findings contrast with the null association observed in the Black Women's Health Study in the 1990s.<sup>5</sup> However, this discrepancy may reflect changes in targeted marketing and chemical composition in beauty products.<sup>5</sup> The potential toxicity of beauty product-related chemicals has led women's health providers to issue a call to action to identify and reduce patient exposure to these agents.<sup>1</sup>

Despite the popularity and widespread use of hair care and beauty products, inaccurate and inconsistent labeling of ingredients is common due to laxity of regulations.<sup>3</sup> Federal cosmetic regulations have not been updated since 1938, when the Federal Food, Drug, and Cosmetic Act was passed.<sup>6</sup> Since then, beauty products have been under the regulation of the U.S. Food and Drug Administration (FDA), but do not necessarily require FDA approval to be on the market.<sup>3</sup> However, the market is still rapidly evolving. There have been multiple attempts to modernize regulations to keep up with this beauty evolution, but none have proven successful.<sup>6</sup> For example, the Occupational Safety and Health Administration issued a hazard alert on formaldehyde containing hair products, but the hazard alert is not a regulation nor does it create new legal obligations.<sup>7</sup> Dermatologists can be advocates for patients by pushing for adequate safety laws for beauty products.

We recommend that dermatologists remain mindful of potential toxicities of beauty product use. This awareness is especially important with vulnerable populations, such as AA women who may be at a higher risk of endocrine-disrupting chemical

exposure from the use of ethnic skin and hair care products. Dermatologists may practice culturally competent care by incorporating the discussion of beauty products into their clinical practice and inquire about current skin and hair care regimens. Dermatologists may counsel patients on potential safety concerns. Further research is warranted to understand and better characterize the systemic effects of beauty products, especially those targeted toward AA. Dermatologists and industry should work together to ensure safer beauty products are developed for skin of color. By understanding the effects of topical beauty products, dermatologists may aid in closing the gap in health disparities between racial and ethnic groups.<sup>1,7</sup>

## DISCLOSURES

The authors declare that they have no relevant conflicts of interest to disclose.

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