A Public Health Approach to Addressing Metals in Cosmetic and Personal Care Products

NIEHS Center Community Briefing
January 16, 2019

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Health Effects of Lead

Most children and adults with elevated blood lead levels do not look or feel sick. Only way to know is to get a blood lead test!

**Developing Children**
- Damage to the brain and nervous system
- Learning and behavior problems

**Maternal and Fetal**
- Miscarriage, premature labor, high blood pressure
- Cognitive and developmental delays

**Adults**
- Brain and nervous system disorders
- Hypertension, cardiovascular, reproductive and kidney damage

By law, testing required for:
- 1 and 2 yrs and up to 6 yrs with risk
- People who work with or around lead
- At-risk pregnant women

Health department receives all NYC blood lead reports

Interview those over specific blood lead levels:
- To find source of exposure
- To provide education
Lead Sources

Lead Paint | Occupational | Non-Paint

Based on lead surveillance data of cases with BLLs ≥ 10 µg/dL, typically

- **Lead paint** -- primary source of lead poisoning among **NYC children**
  - BUT a lead paint hazard is not identified in ~25% of children

- **Occupational lead hazards** -- primary source of lead poisoning among **adult males**
  - BUT <20% of males report only non-occupational sources
  - >80% of women report non-paint and non-occupational sources

**Non-paint and non-occupational sources include:**

- Imported health remedies, foods, cosmetics or ceramics
- Eating earth, clay or crushed pottery during pregnancy (pica)
- Recent foreign travel
Global Span of NYC’s Investigations

**Dietary Supplements & Remedies | Ayurvedic, TCM, U.S., Soviet/Mexican/West African/Dominican remedies, etc.**
BLLs up to 192 µg/dL, Pb levels up to 75%, For various ailments, Hand-made or manufactured in US or abroad, Prescribed or purchased in NYC or abroad

**Spices and Snacks from South Asia, Georgia, Mexico, etc.**
Pb levels up to 48,000 ppm, Purchased in NYC or abroad, Made in Bangladesh, Georgia, and other countries

**Cosmetics and Religious Powders from South Asia, Africa, Middle East, etc.**
Pb levels ~96%, Purchased in NYC or abroad, Made in Afghanistan, Pakistan, India, Morocco, and other countries

**Amulets, Jewelry and Toys from South Asia, China, etc.**
Pb levels ~100%, Purchased in NYC or abroad, Made in Bangladesh, India, Cambodia, Peru, China, and other countries

**Ceramics**
Pb levels ~99%, Purchased in NYC or abroad, Made in Mexico, Uzbekistan, and other countries
NYC’s Approach to Address Contaminated Consumer Products

**Identification of Hazardous Consumer Products**
- Investigations of lead-poisoned individuals
- Poison Control Center reports
- National alerts
- Reports from other jurisdictions
- Media reports
- Published literature

**Determination of Product Availability in NYC**
- Check product availability in NYC stores
- Target neighborhoods based on product users
- Laboratory testing (when necessary)

**Embargo and Enforcement**
- Stop sale or distribution of products
- Seize and remove products
- Order disposal of products
- Notify other agencies when applicable

**Public Awareness Activities**
- Notify consumers and general public, businesses, health care providers, community-based organizations
  - Press releases
  - Brochures
  - Fact sheets
  - Health advisories

Ways to Protect Children and Pregnant Women

Peeling Lead Paint Turns Into Poisonous Dust

Guess where it ends up?

- Report peeling or damaged paint to your landlord. Call 311 if your landlord doesn’t fix the problem or if you think repair work is being done unsafely.
- Keep children away from peeling paint and home repairs.
- Wash floors and windowsills often. Wash children’s hands and toys too.
- Remove shoes before entering your home.
- Wash work clothes separately from the family laundry if someone in your household works with lead.
- **Tell your doctor to test your child for lead poisoning at age 1 and age 2.** Older children should be tested too if you think they have had contact with lead.

Don’t use foods and spices, medicines, clay pots and dishes, cosmetics, and toys from other countries. They may contain lead.

Pregnancy and Lead Poisoning

Ask your doctor about a blood lead test.

A blood lead test is the only way to find out if you have lead poisoning. You usually do not look or feel sick.

At your first doctor’s visit when you’re pregnant:

- Your doctor should ask about your recent or past exposure to lead.
- If you were exposed to lead, your doctor should do a blood test.
- If you had lead poisoning when you were younger, tell your doctor.

What Every Woman Should Know

Eat a healthy diet

Talk to your doctor to make sure you are getting enough calcium, iron, and vitamin C.
80
Hg
Mercury
200.59
# Health Effects of Mercury

<table>
<thead>
<tr>
<th>Type</th>
<th>Absorption Method</th>
<th>Target Organs</th>
<th>Measured In</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Organic Mercury   | Easily absorbed through GI tract | Target organs: CNS (primarily) and kidney | Measured in blood | Methylmercury is predominant form  
                    |                             |                      |             | - High exposure: severe damage to CNS  
                    |                             |                      |             | - Lower exposure: developmental delays  
                    |                             |                      |             | - May also increase CVD risk |
| Inorganic Mercury | Absorbed through GI tract and skin | Target organ: kidney               | Measured in urine |                                                                         |
| Metallic Mercury  | Vaporized form enters body via inhalation | Target organs: kidney and CNS      | Measured in urine |                                                                         |
Skin Lightening and Beauty in Four Asian Cultures
Eric P. H. Li, York University, Canada
Hyun Jeong Min, University of Utah, USA
Russell W. Belk, York University, Canada
Junko Kimura, Hosei University, Japan
Shalini Rahl, University of Utah, USA

“White skin” has emerged as a central desideratum of consumer culture in affluent Asia. Not only does skin lightness affect perceptions of a woman’s beauty, it also affects her marital prospects, job prospects, social status, and earning potential (Achikawa 2003b; Goon and Craven 2003; Leslie 2004). White skin in Asia predates colonialism and Western notions of beauty (e.g., Watanabe 1999). The meanings of white skin combine Western ideals of beauty and traditional Asian cultural values. The American and Eurasian models reflect the post-colonial influence on Asian perceptions of beauty.

LOCAL BEAUTY STORY

Fair skin syndrom

Skin whitening big business in Asia

The relation between skin color and judgments about attractiveness affect women most acutely, since women’s worth is judged heavily on the basis of appearance. Not to acquire light-skinned privilege. Sometimes this seeking light-skinned marital partners to raise one’s status, mobility by increasing the likelihood of having light-skinned friends.

THE NICEST THINGS HAPPEN TO GIRLS WITH LIGHT, BRIGHT COMPLEXIONS!

India is not the only country that suffers. According to a document posted at YouthExchange.com, a 2002 survey showed that the usage of bleaching cream in Lagos, Nigeria was close to 77 percent. The fair skin syndrome is more of an epidemic and has spread over much of the third world.

Skin Whitening A Global Practice

Skin lightening products account for nearly half of the cosmetics industry and are in high demand in Asia, Africa and the Caribbean, though the products can often cost $5 a bottle and the chemicals used in them can cause health defects such as scarring of the skin, or even cancer.

And while beaches may be teeming during the summer months, many women go to great lengths to shade themselves from the sun, particularly in the villages of Egypt, Morocco, Syria and Tunisia.

A whiter shade of pale: skin-lightening in the Arab world

From: [article] 30 March 2008 09:21:00

But this has not stemmed the practice in places like Taiwan, where more than 50 percent of women and a smaller but growing proportion of men pay big money to lighten their beige, tan, and golden complexions. One survey by Synovate found that 4 out of 10 women in Hong Kong, Malaysia, the Philippines and South Korea used a skin-whitening cream. More than 60 global companies are competing for a share of Asia’s estimated $18 billion dollar market.
Mercury Containing Skin-Lightening Cream

- **Recetas de la Farmacia – Crema Blanqueadora:**
  - Mercury level 6,190 ppm
  - Urine mercury level 95 µg/L (CHANES)
  - Made and purchased in Dominican Republic (DR)

- **Findings triggered enforcement and education:**
  - Issued Commissioner’s Orders to stores to stop sale
  - Ordered posting of health warning signs
  - Notified FDA, health care providers and conducted press event with Commissioner, Dominican Consulate, Mayor’s Office of Immigrant Affairs
  - Worked with Pan American Health Organization to raise awareness in Dominican Republic

Illegal to sell cosmetics in US if mercury > 1 ppm; FDA label requirement - must list active ingredients
# Mercury-Containing Products Identified in Health & Beauty Stores, Drug Stores, Botanicas

<table>
<thead>
<tr>
<th>Product name</th>
<th>Place of manufacture</th>
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<tbody>
<tr>
<td>Skin-lightening creams</td>
<td></td>
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<tr>
<td>Recetas de la Farmacia Normal–Crema Blanqueadora</td>
<td>Dominican Republic</td>
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<tr>
<td>Dermaline Skin Cream</td>
<td>Dominican Republic</td>
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<tr>
<td>Magia Blanca de Michelle Marie Crema Blanqueadora</td>
<td>Dominican Republic</td>
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<tr>
<td>Dermaline Skin Whitening Cream</td>
<td>Dominican Republic</td>
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<tr>
<td>Miss Key Crema Blanqueadora</td>
<td>Dominican Republic</td>
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<tr>
<td>Crema Santa</td>
<td>Dominican Republic</td>
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<tr>
<td>Deluxe Nadinola Bleaching Cream</td>
<td>JamaicA</td>
</tr>
<tr>
<td>Dermaline Beauty Cream</td>
<td>Dominican Republic</td>
</tr>
<tr>
<td>Germicidal soaps/creams/balms</td>
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<tr>
<td>Germicida 200 (soap)</td>
<td>European Economic Community</td>
</tr>
<tr>
<td>Crema Santa Germicida</td>
<td>Dominican Republic</td>
</tr>
<tr>
<td>Pomada Salva-Vida (balm)</td>
<td>Dominican Republic</td>
</tr>
<tr>
<td>Jabon Germicida Contifarma (soap)</td>
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</tbody>
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Population-Based Inorganic Mercury Biomonitoring and the Identification of Skin Care Products as a Source of Exposure in New York City. McKelvey et al.
Skin-lightening creams that contain mercury are dangerous — mercury is a poison.

Read the labels of all skin products.

Do not use if:
- mercury is listed as an ingredient, or if
- ingredients are not listed

See your doctor if you use mercury-containing products.

Call 311 or 212-POISONS (212-764-7667) for more information.

Do Not Use These Products/
No Use Estos Productos
- Recetas de la Farmacia Normal — Crema Blanqueadora
- Miss Key Crema Blanqueadora
- Santa Crema
- Dermaline Skin Cream
- Dr. Collado Jabón Germicida

The New York City Health Code Section 71.05 prohibits sale of mercury-containing skin products. La sección 71.05 del Código de Salud de la Ciudad de Nueva York prohíbe la venta de productos de la piel que contienen mercurio.
The Health Department recommends that New Yorkers immediately stop using all skin-lightening creams and medicated soaps that list mercury as an ingredient. However, mercury may not always be listed as an ingredient on the label, so New Yorkers should speak with their doctor if they are using non-prescription products to lighten their skin or for skin disorders.

Recommendation for NY’ers | The Health Department recommends that New Yorkers immediately stop using all skin-lightening creams and medicated soaps that list mercury as an ingredient. However, mercury may not always be listed as an ingredient on the label, so New Yorkers should speak with their doctor if they are using non-prescription products to lighten their skin or for skin disorders.

Health department warns New Yorkers about skin-lightening creams and medicated soaps that contain dangerous levels of mercury

The products, sold over the counter in New York City, contain up to 14,000 times the allowable limit for mercury in cosmetics.

April 6, 2018 – The Health Department today warned New York City residents about 10 skin-lightening creams from Pakistan and two medicated soaps from Spain with elevated levels of mercury. These products can contain up to 14,000 times the allowable limit for mercury in cosmetics. Exposure to mercury can cause serious and life-threatening health problems, including damage to the nervous system and kidneys. In pregnant women, mercury poisoning can also affect the fetus and increase the risk of miscarriage. The Health Department sent an alert to health care providers (PDF) in New York City to advise patients against using such products.

The Health Department recommends that New Yorkers immediately stop using all skin-lightening creams and medicated soaps that list mercury as an ingredient. However, mercury may not always be listed as an ingredient on the label, so New Yorkers should speak with their doctor if they are using non-prescription products to lighten their skin or for skin disorders.
Resources

- For more information about Lead Poisoning Prevention
  Call 311 or visit nyc.gov/lead

- For more information about Hazardous Consumer Products
  Call 311 or visit nyc.gov/hazardousproducts

- NYC Mercury website
  https://www1.nyc.gov/site/doh/health/health-topics/mercury.page

- NYC Poison Control Center
  1-800-222-1222 or 212-POISONS (764-7667)