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Cosmetic And Their Related Side Effect: A Short Overview

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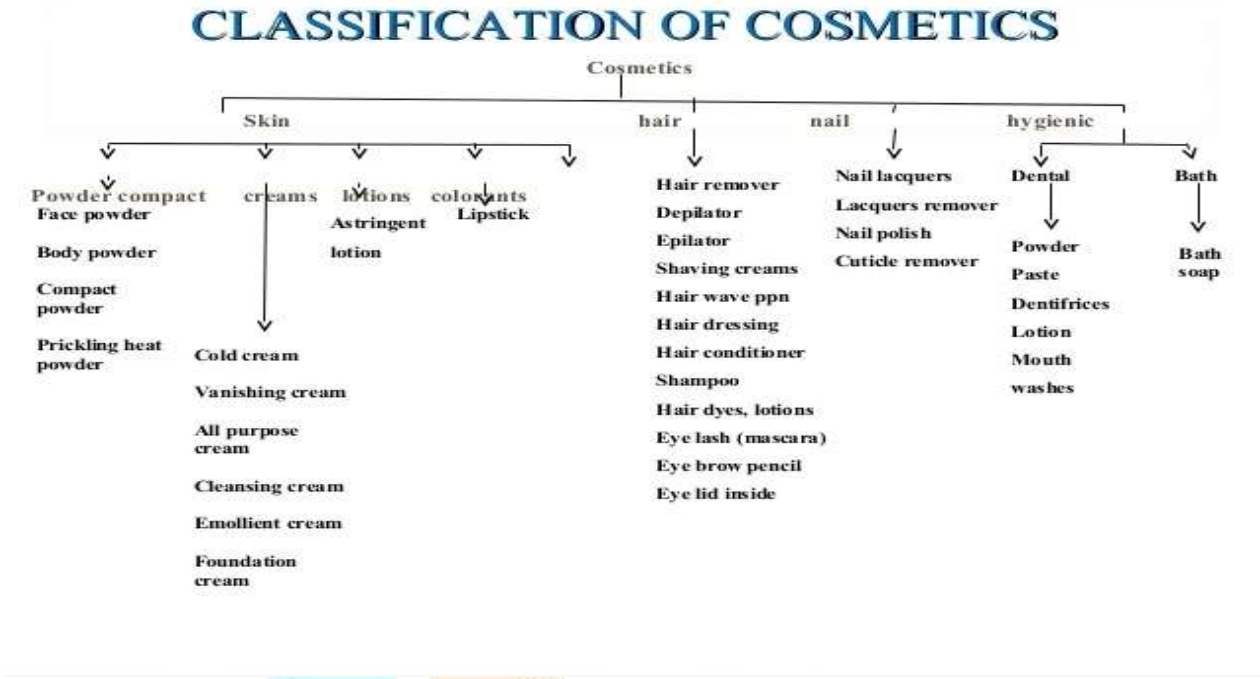
ABSTRACT

The word "cosmetics," which comes from the Greek word "kosmeticos," describes substances used to enhance or beautify look. Humans have wanted to seem beautiful from the time of the tribes. Toxic chemicals included in beauty goods can be detrimental to one's health. These items include skincare, hair, perfumes, dental care, and nail care. These goods are particularly appealing to women. With a global market value of over $20 billion, the cosmetics business plays a big role in the beauty sector. But there is a negative aspect to these products as well. Beyond permissible bounds, toxic compounds and dangerous chemicals are added, which might seriously harm organs and skin and perhaps cause cancer. Since cosmetics are now widely used in both everyday life and fashion, it is imperative to increase awareness of their negative consequences.

INTRODUCTION

Cosmetics are items that are used to enhance attractive traits, clean, or adorn the face. These consist of deodorants, antiperspirants, hair wavers, hair dyes, hair sprays, toothpaste, shampoo, , mascara, after-shave lotion, styling gel, creams, fragrances, lipsticks, fingernail paint, and eye and face makeup. Primarily a cosmetic term, "make-up" refers to colored cosmetics meant to change a person's look. Cosmetics and skincare products are concoctions of natural or synthetic chemicals that are intended to enhance the body's look or scent. They are designed to be applied to the body by rubbing, pouring, sprinkling, or spraying in order to enhance beauty, cleanse, or change look without compromising bodily functions or structure.



HISTORICAL SIGNIFICANCE

Ancient Egypt and India are the origins of the science of cosmetology; the first written accounts of cosmetic ingredients date to about 2500 and 1550 B.C. An ancient cure for cracked lips was discovered in the Indus Valley Civilization. In order to make a paste that could be applied to cracked lips, the rind of Bel fruit was ground into a powder and combined with women's milk. This mixture caused the cracks to cease and heal in ten days. It was advised to use a variety of depilatory chemicals to get rid of unnecessary hair because it was regarded as a signal of shame. The milky latex of Nivadunga was applied to the targeted location after the dried fruits of Aavalakatti and Pimpali were soaked in it. This caused the hairs to come out. With cosmetic practices like hair dyeing, depilation, and exfoliation having their roots in ancient Egyptian civilization, kajal has a long history in Hindu culture. White lead and mercury-based cosmetics were used by the Romans, Greeks, and Egyptians to smooth and cleanse skin, cover up body odour, and colour the face for religious and ceremonial purposes. Additionally, according to ancient beliefs, eye makeup might enhance vision and drive off bad spirits. Hindu culture still uses a variety of cosmetics and beauty rituals nowadays.

Cosmetic Products and their toxicity

Social acceptance, peer pressure, and advertising are some of the factors that affect women's skincare decisions. According to a research by Robertson et al., women who wear cosmetics frequently feel insecure and unconfident. Hazardous substances used in cosmetic products have the potential to damage skin. Natural, sustainable components like cane sugar, shea butter, and rose essence should be used by manufacturers. Perfumes and nail polish are examples of long-lasting skincare items that might trigger allergic responses. Moisturizers can exacerbate the hygroscopic qualities of the skin, leading to exfoliation and irritation, particularly when applied in high quantities.

Skin brightining agent

A dangerous skin-lightening substance that may be mutagenic and induce ochronosis is hydroquinone (HQ). An uncommon side effect of HQ is ochronosis, which causes the region treated with high quantities of HQ cream to gradually darken. A HQ prevents the creation of melanin by blocking a tyrosinase enzyme. It may obstruct the development and breakdown of melanosomes. The most widely used depigmenting chemical at the moment is HQ, but it is very cytotoxic to melanocytes and may be mutagenic to mammalian cells. Exogenous ochronosis may result from the discomfort, redness, and burning it causes. Since ochronosis can cause skin elasticity loss and poor wound healing, several nations have banned its over-the-counter usage.

Black Henna

Red henna and commercial hair color is (PPD) temporary tattoo method known as "black henna." In order to intensify and deepen the color, improve the design pattern, speed up the dyeing and drying process, and extend the tattoo's lifespan, PPD is added to the henna paste. Blisters, skin oozing, swelling, and erythromatous rashes are some of the adverse consequences of PPD. Immediate allergic responses, including sneezing, and shortness of breath, have been documented in studies. Localized hypertrichosis following black henna tattoos without allergic responses has been seen in certain circumstances. Many incidents of black powder poisoning, some deadly, were reported in Sudan in the early 1980s. Massive edema of the face, lips, glottis, pharynx, neck, and bronchi are among the first signs, which can develop into acute renal failure and anuria. Some individuals have benefited from dialysis, but others have passed away from renal tubular necrosis.

Sunscreen product

The most prevalent sensitizers in sunscreens are benzophenones, which can result in irritating, allergic, phototoxic, or photoallergic responses. Photoallergic dermatitis can be brought on by debenzoyl methanes, paraaminobenzoic acid, and cinnamates. perfumes and other substances that enter the direct to the brain are the primary source of allergies associated with deodorants, antiperspirants, and perfumes. Airborne contact dermatitis can be brought on by fragrances sprayed into the atmosphere. Phthalates are hormone disruptors, whilst coumarins and phethleugenol are suspected carcinogens.

Shampoo

Shampoos and conditioners have less negative effects since they are in touch with the skin for a shorter period of time. They may, however, make eye contact when washing hair, which might result in tangling or matting of the scalp. Another consideration is the shampoo's pH; the majority have an alkaline pH, which can damage and swell hair shafts. The ideal pH for chemically treated hair is neutral. Shampoos have a significant risk of sensitization since they are diluted with water, have a brief contact period, and are washed off. The chemicals in hair bleaching treatments, can result in Type I and Type IV allergic contact responses.

Dangerous products used in cosmetics

BHA AND BHT

Synthetic compounds called BHA and BHT are used in lipsticks and moisturizers. The European Commission on Endocrine Disruption and the International Agency for Research on Cancer have identified them as a potential human carcinogen and they can result in skin responses. In addition to interfering with hormone function, BHA may encourage tumor growth. Excessive BHT dosages can have negative effects on reproduction by imitating estrogen and inhibiting the expression of male sex hormones.

Coal Tar Pigments

Petroleum is the source of coal tar, a substance used in hair colors and cosmetics, such as p-phenylenediamine. It is more common with darker hair colors and can result in negative side effects like blisters, erythromatous rash, stinging, swelling, and surface bleeding. Additionally, henna dyes have been connected to shortness of breath, sneezing, runny nose, coughing, and instant allergic responses. Certain hues of coal tar that are mixed with aluminum substrate and tainted with trace amounts of heavy metals may also be linked to cancer. The brain may be negatively impacted by these hues. Lipstick and other cosmetic colors food additives. It has been discovered that P-phenylenediamine causes cancer, and women who use hair dyes for an extended length of time possess a higher chance of non-Hodgkin's lymphoma development. Because p-phenylenediamine has long-term negative impacts on aquatic environments, the European Union has classed it as hazardous and highly dangerous to aquatic creatures.

Parabens

Preservatives like parabens, which are frequently found in cosmetics, are thought to disrupt hormone and male reproductive processes. The main female sex hormone, oestrogen, is mimicked by parabens, which readily penetrate the epidermis. According to studies, using methylparaben topically can cause damage to DNA and enhanced skin aging. Parabens can also be found in some foods, such as barley, strawberries, carrots, onions, currents, and vanilla. When consumed, parabens in food undergo metabolism, which reduces their estrogenic properties. They avoid the metabolic process and enter the circulation and bodily organs undamaged when administered topically and absorbed by the body. Every day, women are exposed to 50 mg of parabens, which are linked to neurotoxicity and cancer.

Perfume

A blend of essential infuse the human body, animals, food, objects, and living areas with a pleasing aroma. With almost 3,000 compounds, it is a key component of colognes, deodorants, and perfumes. Perfumes are frequently found in cosmetics, especially those claimed to be "fragrance-free" or "unscented." Unlisted fragrance chemicals may trigger symptoms of asthma, allergies, and excruciating headaches. Asthma in youngsters can be exacerbated and exacerbated by perfume. It is the second most frequent reason why people have allergies.

Health issuses with Heavy Metals in Cosmetic Products

Women's health is at danger from heavy metals, which are frequently included in cosmetics. These metals build up in the body over time, causing a number of health problems, including cancer, disorders of the reproductive and developmental systems, neurological disorders, cardiovascular, skeletal, blood, immune system, kidney, renal problems, headaches, nausea, vomiting, diarrhea, lung damage, contact dermatitis, and brittle hair loss. While some heavy metals are respiratory poisons, others are hormone disruptors. These metals through damaged skin or consumed and enter the body.

Naturally occurring in the environment, cadmium enters the body through the skin and is deposited in the kidney and liver. The International Agency for the Control of Cancer (IARC) has determined that it and its components are carcinogenic to humans. Prolonged exposure to high amounts of cadmium can result in kidney damage, bone deformities, and simple bone breaking. It can also induce severe stomach discomfort, vomiting, and diarrhea.

Lipsticks may contain lead because of tainted pigments or raw ingredients. Lead comes into touch with the skin every day, and part of it is absorbed. Increased blood-lead levels in women and children have been connected to the use as Kohl and Surma. Because lead may pass through the placenta and reach the brain of the baby, pregnant women and small children are particularly vulnerable. Miscarriages, hormonal abnormalities, decreased fertility, irregular menstruation, and delays in the beginning of puberty in females are all consequences of lead exposure. Human cancer is thought to be caused by lead and inorganic chemicals.

A common element in nature, nickel is exposed in trace amounts through food, air, water, soil, home dust, and skin contact with cosmetics and other goods that contain it. Depending on the route and kind of nickel exposure, high amounts can have major negative health impacts. While metallic nickel and its alloys have been identify as possibly carcinogenic to humans, some forms of nickel are poisonous because of their carcinogenic properties. Additionally, nickel may trigger allergic responses; eyeshadow was the source of the first nickel allergy case.

Mercury is frequently found in eye makeup, washing products, mascara, and skin-lightening soaps and lotions. It lightens the tone of the skin by preventing the production of melanin. Mercury may be found in cosmetics in both organic and inorganic forms. Organic mercury compounds are utilized as preservatives, and inorganic mercury is used as a skin-lightening agent. Kidney damage is the primary side effect. Skin rashes, discolouration, scarring, and decreased susceptibility to bacterial and fungal infections are all possible side effects of mercury exposure. Peripheral neuropathy, sadness, and anxiety are among the adverse consequences. Wastewater contains mercury from soaps and creams, which then finds its way into the environment as methyl mercury in fish. When pregnant women eat fish that contains methyl mercury, the mercury can be transferred to the fetus, which may cause neuro-developmental deficits in the offspring.

CONCLUSION

Toxic compounds included in cosmetic goods can be harmful to one's health and have long-lasting negative consequences. To prevent harm to human health, it introducing new dangerous compounding into cosmetic formulations, even with the complexity of global regulatory and quality control structures. A global cosmeto-vigilance plan is required to enhance the production, promotion, and use of cosmetics. By disseminating knowledge about the safety of cosmetics and their components, this public health approach keeps possible hazards from developing into serious public health problems.

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