



An Extensive Review Of Cosmetics in Use

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ABSTRACT:

Cosmetics are products used to care for the skin or enhance a person's appearance. They have been used for at least 7,000 years and are found in almost every society around the world. The beauty industry has had a strong influence on our perceptions. India has become a rapidly growing market for cosmetics, with the industry earning over 350 billion rupees in 2009, even during a global economic downturn. Products like sunscreens, creams, and soaps are commonly used. While cosmetics are seen as beneficial by many, they can also have risks and harmful effects. New trends in cosmetics include in silico modeling (computer simulations), Circular Economy (sustainable practices), and products that react to biological changes. Hypoallergenic cosmetics are designed to cause fewer allergic reactions than regular products. The global cosmetic industry is currently valued at approximately 20 billion dollars. As consumers, we are constantly drawn to beauty and personal care products. However, these products, which are meant to enhance our appearance and promote well-being, often have a hidden dark side. Many cosmetics contain toxic ingredients and harmful chemicals that exceed safe limits. These substances can cause severe skin issues and may even penetrate the skin, reaching internal organs and posing a risk of carcinogenic effects. Cosmetics have become deeply embedded not only in the fashion industry but also in daily life. Therefore, it is crucial to raise awareness about the potential dangers of cosmetics and the hazardous chemicals they contain.

KEY WORDS: Cosmetics ,Skin care ,Beauty industry, Market Growth, India, Benefits and risk, New trends.

HISTORY:

Cosmetics have a history that stretches back over 7,000 years and are found in nearly every society worldwide. Cosmetic

body art is believed to have been one of the earliest forms of ritual in human culture, supported by evidence of red mineral pigments, such as red ochre, and

crayons linked to the rise of Homo sapiens in Africa. In ancient Rome, cosmetics were used, though much of Roman literature indicates that their use was often frowned upon. It is known that some Roman women created makeup, including lead-based formulas to lighten the skin and kohl to line the eyes.

INTRODUCTION:

Cosmetics are products used to take care of the face and body, or to change or enhance a person's appearance. They are not just for changing how someone looks, but also for taking care of the skin and body, and adding fragrance. While cosmetics are mainly known for skin and body care, there are many different types, each with its own special purpose. According to this definition, any product that fits the description above would be considered a cosmetic product. However, the US FDA clearly does not classify pure soap as a cosmetic. Cosmetics are products designed to improve a person's appearance or health, and they can be made from natural, synthetic, or a mix of both ingredients. They can be either natural or synthetic and applied to the body through rubbing, pouring, or spraying.

Cosmetics purposes:

serve

several

Hygiene: Certain cosmetic products help clean and maintain personal hygiene, such as soaps, deodorants, and shampoos. These products can also help protect the skin and hair from environmental factors.

Appearance: Many cosmetics are used to enhance or alter a person's appearance. This includes makeup products like foundation, lipstick, mascara, and eyeshadow, which are used to accentuate features or create artistic effects. Hair color, skincare treatments, and fragrances also fall into this category.

Treatment: Some cosmetics, also known as cosmeceuticals, blend cosmetic and pharmaceutical properties. These products, such as anti-aging creams or acne treatments, are designed to not only improve appearance but also address specific skin concerns or conditions, offering therapeutic benefits.

SKIN:

Skin is the outer layer of the body and is the largest organ. It protects the internal organs and controls what can pass in and out of the body. Skin also protects us from things like chemicals, heat, cold, and sunlight. It helps control body temperature and plays a role in important body functions. The skin's pH level, which is between 4.0 and 5.6, is slightly acidic. This helps prevent harmful germs from growing on the skin. The skin has three main layers: the outer epidermis, which is made of cells, the vascular layer with blood vessels, and the dermis, which is a layer of connective tissue underneath. The anatomy, structure, and composition of each layer vary based on its function and role.

Epidermis-

The outermost layer of skin that acts as a barrier, protecting the body from external threats. It consists of different sub-layers: the stratum corneum, stratum spinosum, stratum basale, and stratum granulosum.

Dermis-

The skin layer beneath the epidermis, responsible for providing strength, flexibility, and texture. It contains important structures such as collagen, elastin, blood vessels, lymphatic vessels, sweat and oil glands, sensory nerves, and hair follicles.

Hypodermis-

The deepest layer of skin, also referred to as subcutaneous tissue, which helps insulate the body, store energy, and cushion underlying organs.

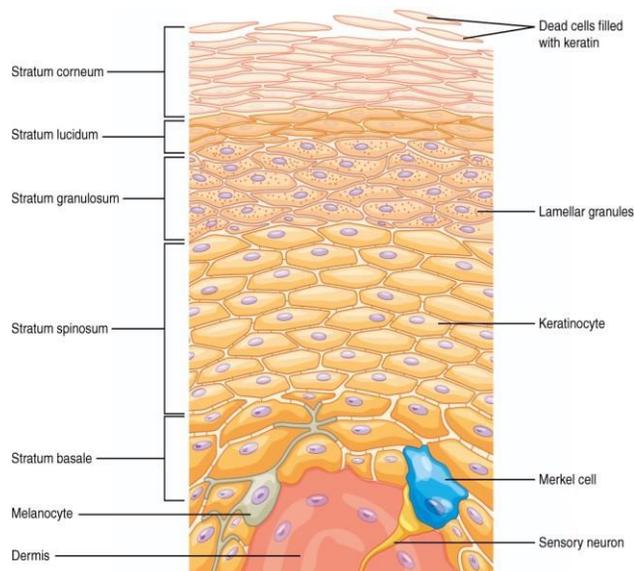


Fig.No.1

PROPERTIES OF COSMETICS:

- Bacterial-fighting
- Inflammatory-reducing
- Muscle-relaxing
- Free-radical fighting
- Infection-preventing
- Calming
- Tightening
- Skin-smoothing
- Moisturizing
- Acne-fighting

CLASSIFICATION OF COSMETICS:

Cosmetics can be grouped into different types, like skin care, hair care, and makeup. Here are some common categories of cosmetics:

- 1) **Skin care:** Includes products like face creams, lotions, cleansing creams, and skin milk.
- 2) **Hair care:** Includes things like hair dye, shampoo, and hair treatments.
- 3) **Makeup:** Includes products like foundation creams, lipsticks, and eye makeup
- 4) **Fragrances:** Includes perfumes and cologne.
- 5) **Baby products:** Products made

specifically for babies.

- 6) **Bath preparations:** Products used for bathing
- 7) **Eye makeup:** Includes makeup for the eyes, for both kids and adults.
- 8) **Hair preparations:** Includes products for hair, whether for coloring or other treatment.

Ingredient in cosmetics and their toxic and genotoxic effects on human health:

Effect of chemicals on human health:

This review paper provides useful insights for countries dealing with the environmental effects of cosmetics. According to reports, the global cosmetic and skincare industry made around \$100 billion in 2022. This data shows that people use a huge amount of beauty products regularly, mainly due to unrealistic beauty standards influenced by social media. The human body comes into contact with harmful metals through breathing, eating, and skin exposure, including arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb), and mercury (Hg). Many harmful metals are added to skincare products to meet high beauty standards. When these heavy metals are present in excessive amounts in beauty products, they can negatively affect human health. These metals can enter the bloodstream through the skin and cause serious health issues. One major concern is the potential for DNA damage and mutations, known as genotoxic effects. Some ingredients, like certain colorants, UV filters, and organic compounds, may increase the risk of skin cancer and other tumors. Products made for men usually focus on being simple and effective. Besides adults, children also use cosmetics and personal care items (Infant et al., 2016). This growing market meets parents' need to care for their children's health and hygiene. Children's products are specially designed to be mild and safe, ranging from gentle shampoos and lotions for babies to fun and colorful products for older kids (Liang, 2020). Safety is a top priority in children's items, often featuring "no-tears" formulas and hypoallergenic claims. However, some ingredients may still pose risks, such as toxicity or genetic effects, and should not be overlooked. Since children's skin is delicate and still developing, it is important to carefully examine

the ingredients used in these products to avoid possible long-term effects. A detailed review of existing research was done through a meta-analysis using various academic databases, including PubMed, Cochrane Library, Excerpta Medica Database, and Web of Science.

1,4-dioxane:

Beauty and personal care products have become a big part of modern life because they promise to make people look better and feel more confident. However, behind their attractive appearance, some of the ingredients in these products can be harmful to human health. This discussion explores the risks linked to these harmful substances and highlights the need for strict rules to keep people safe. According to Zhou (41), the presence of 1,4-dioxane in cosmetics can be analyzed using gas chromatography coupled with tandem mass spectrometry. This detection technique works by ionizing and fragmenting molecules, making it a widely adopted method in the pharmaceutical and biomedical industries. One of its key advantages is the ability to accurately measure the mass-to-charge ratio of ions, allowing for precise identification of molecular structures and chemical properties. In this study, a total of 82 different types of cosmetic products, including baby hair and bath items, were examined.

Oxybenzone (benzophenone-3):

Benzophenone (Ph_2CO) is a white organic compound commonly present in various skincare products. The depletion of the ozone layer has led to an increase in ultraviolet (UV) radiation reaching the Earth's surface, which, in turn, has resulted in a higher demand for sunscreens and personal care items globally. Children are particularly vulnerable to these UV rays and require specialized skincare products for their face and body on a regular basis. Oxybenzone (benzophenone-3) is an organic substance widely used to mitigate the harmful effects of UV radiation but is also recognized as an environmental contaminant. This compound is a key ingredient not only in sunscreens but also in numerous personal care items, including shampoos, body lotions, and lip balms. Growing concerns suggest that exposure to oxybenzone chemicals may be linked to the rising prevalence of endocrine system disorders in humans and other living organisms.

Acrylates:

People can be exposed to this chemical through inhalation or skin contact. The toxic components found in nail products have led to numerous adverse effects on human health, which have been documented globally. Recent research has associated exposure to acrylates with an increased risk of cancer, reproductive organ toxicity, and skin irritation (44). The use of various products that claim to enhance appearance and boost self-confidence aligns with the purpose of cosmetics and personal care. However, beneath their appeal lies a concerning reality: these products contain chemicals that may be carcinogenic. Analyzing the risks associated with certain substances, the scientific evidence behind their cancer-causing potential, and the necessity for stricter regulations to safeguard human health is crucial.

CONCLUSION:

Cosmetic products are essential for addressing skin issues and should be handled with care. They are a great choice for improving skin health. The demand for cosmetics is expected to grow in the coming years. The extensive review of cosmetics in use highlights the diverse range of products available and their impact on consumers. Cosmetics play a crucial role in enhancing appearance, boosting confidence, and maintaining skin health. However, the review also emphasizes the importance of understanding ingredient safety, regulatory standards, and potential side effects. With growing awareness of sustainability and ethical considerations, the industry is shifting toward eco-friendly and cruelty-free formulations. Continuous research and innovation are essential for developing safer, more effective, and sustainable cosmetic products. Ultimately, informed choices and responsible usage are key to maximizing the benefits of cosmetics while minimizing potential risks. The demand for cosmetics is expected to grow in the coming years. Beauty salons typically spend between Rs. 40,000 and 60,000 annually on beauty products, while a small percentage (6%) spend less than Rs. 10,000. This shows that spending on beauty products is becoming a global trend.

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