A REVIEW OF NUTRITIOUS COSMETICS FOR HAIR AND SKIN

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Abstract

In recent years, the usage of cosmetics has increased significantly. They are also referred to as cosmeceuticals or nutritious cosmetics. The most common name for nutricosmetics is cosmetics. The most promising, although difficult, therapy alternatives accessible to doctors are cosmetics and nutricosmetics. These days, cosmetics having antiaging properties are referred to as cosmeceuticals. They are the market sector with the quickest growth. Even if these cosmetics are pricey, many are willing to spend money on them in order to realize their desire to seem younger. Because of their increasing popularity, it is clear that they are the intersection of health and beauty. For certain skin issues including photoaging, hyperpigmentation, and wrinkles, cosmetic treatments are available. These are cosmetic items that include biologically active ingredients that have therapeutic or drug-like effects. Cosmeceuticals have been shown to be beneficial in treating a variety of dermatological disorders and are known to nourish the skin as well as enhance its look.

Keywords:- Nutricosmetics, Hyperpigmentation.

INTRODUCTION

Since prehistoric times, humanity has realized how important aesthetics are, and society's desire to seem attractive and healthy has been growing. Fitness, excellent health, appearance, and selfpresentation are increasingly considered to be personality traits, and individuals are now evaluated based on these traits. Because of this, it is now necessary and desirable to pay greater attention to appearance and beautification for both social acceptability and professional success. which the media also **Dr. Allenki Venkatesham** Research Guide Department of Pharmacy

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Cosmetics overemphasizes. and medications combined are to form cosmeceuticals. Cosmeceuticals, also known as nutricosmetics, are cosmetic products that include physiologically active chemicals and provide therapeutic or drug-like effects. It's a substance with medical qualities that shows positive topical effects and offers defense against deteriorating skin problems. It includes cosmetic ingredients having therapeutic, disease-fighting, or healing capabilities, bridging the gap between medicines and personal care products.

Kligman used Albert the term "cosmeceuticals" in 1984 to describe chemicals that continue to have both aesthetic and medicinal effects. The beauty industry's fastest-growing subsegment is cosmetics. Because thev include ingredients that are known to enhance the biological activity and functionality of the skin, cosmetics are applied topically. They make people look better by giving them the nutrients that the skin needs. They often make the promise that they will lessen simultaneously wrinkles and enhance skin tone, texture, and brightness. Cosmetics are items that are "intended to be rubbed, poured, sprinkled, or sprayed on, or introduced into, or otherwise applied to human body for cleansing, beautifying, promoting attractiveness, or altering the appearance," according to the Food Drug and Cosmetic Act. Skin



moisturizers, lipstick, fingernail polish, face make-up preparation, eve and permanent waves, hair colors, shampoos, deodorants, toothpaste, and many more specific goods designed for use as cosmetics are among the products included description. by this Pharmaceutical, biotechnology, natural product, and cosmetic companies large and small are continually creating cosmetically active chemicals. Effectiveness, safety. formulation stability, innovation, patent protection, skin metabolism, and low cost of production are desirable qualities of cosmeceutical agents. The activities offered by pharmaceuticals, cosmeceuticals.

There 400 over cosmeceutical are producers, including businesses that produce and/or provide cosmeceuticals for the American market. The largest firms in the finished goods sector are Procter & Gamble, Johnson & Johnson, L'Oréal Estee Lauder, Avon, and Allergan, which account for about half of the market in the United States [1]. A cosmetic product's effectiveness is influenced by both its active components and the method used to distribute those elements. We must keep in mind that skin is more than just a collection of overlapping cell layers such as corneocytes, keratinocytes, and fibroblasts. Skin aging is influenced by chemical products, pollution, stress, IR and UV radiation, abrasion, and other environmental factors. The effects include inflammation, burns, edema, chronic sickness, actinic damage, and early aging. These effects might be obvious or subtle. The antiaging category of skin care products now has the greatest growth rates, with the majority of cosmeceuticals making claims of offering antiwrinkle and firming, hydrating and lifting, skin toning and whitening action.

CHARACTERISTICS OF COSMECEUTICALS

The following might be used to describe cosmetics:

• The drug-like properties of the product allow it to be applied to skin that is normal or almost normal.

• The product should clearly assist those with mild skin conditions (cosmetic indication).

• The product should have a very low risk profile since the skin disease is minimal.

SKIN COSMECEUTICALS

Skin Cosmeceuticals includes the often used items that are a component of regular grooming. The biggest organ in our body, the skin divides and protects the internal environment from the exterior environment, including air pollution, UV exposure, and other hazards. In order to maintain excellent health, the skin must be preserved and protected. Sunlight's UV rays enter the skin and hasten the oxidative damage caused by free radicals, which includes wrinkles, inflammation, and hyperpigmentation. Due to extended exposure to UV radiation, the skin's collagen and elastin fibers are broken down by the enzymes collagenase and elastase, causing the skin's texture to degrade. The suppleness and integrity of the skin are preserved by collagen and elastin. Numerous antioxidants and plant extracts from natural sources may improve the look of the skin while delaying the signs of aging. The schematics of healthy or normal skin are shown here, along with a damaged skin.

BOTANICALS APPLICABLE FOR



COSMECEUTICALS FOR SKIN-

Teas, soy, pomegranate, date, grape seed, pycnogenol, horse chestnut, German chamomile, curcumin, comfrey, allantoin, and aloe are a few of the most significant botanicals with regard to cosmeceutical application. All have a history of treating dermatitis. Only date, soy, pomegranate, green and black tea, and soy have published clinical studies for the therapy of extrinsic aging factors.

Cosmetics either have drug-like effects or provide some medical advantages. In order to preserve the keratin structure and improve the health of the skin, they are thus able to impact how the skin functions biologically by promoting the formation of collagen and reducing the negative impacts of free radicals.

TYPES OF SKIN COSMECEUTICALS-

The following categories apply to cosmeceuticals based on their purpose:

• Cosmeceuticals for skin-whitening and/or depigmentation

- Moisturizers for cosmetics
- Anti-aging cosmetics
- Sunscreen and cosmetics
- Cosmetics with anti-aging properties

The following general categories may be used to categorize cosmeceuticals based on the many products that are now available on the market:Antioxidants

- Growth elements
- Peptides
- Metals
- Anti-inflammatories/botanicals,
- Polysaccharides
- Lightening agents for pigment.

COSMECEUTICALS INGREDIENTS WITH THEIR SOURCES-

The substances used in cosmeceuticals are listed in Table No.2 below, along with the

sources from which they were acquired.

HAIR COSMECEUTICALS-

Through history, hair has had a big influence on people's lives, affecting both their inner selves and their outer looks. Both men and women consider having a lot of hair to be desirable since it gives them favorable self-image traits like attractiveness, strength, virility, youth, and confidence. On the other hand, baldness is stigmatized and individuals often go to great lengths to cover up their baldness.

Ancient Egyptians employed "artificial braids" to conceal their baldness, and bizarre hair mixtures were common. Minoxidil topical solution was the first hair-growth stimulant to get clinical approval and is safe and effective. A higher, more potent dose (5%) of minoxidil topical solution is currently offered [12]. The 2% concentration first became accessible for males in 1986 and for women in 1991. Conditioning agents, special care chemicals, and hair growth stimulants are all found in hair cosmeceutical products. Conditioning treatments are used to add softness and shine, lessen flyaway, and improve the ability to untangle. A variety of substances, primarily fatty substances, hydrolyzed proteins, quaternized cationic derivatives, cationic polymers, and silicones, may be employed. The following Fig. 2 illustrates the structure of hair.





Fig.2: Structure of Hair

The most popular cosmetic hair treatment is shampooing. The wide range of attributes that today's consumers want from shampoo go beyond its basic washing role. The compositions of today's shampoos have been modified to account for variances in hair quality, hair care practices, and particular issues with the scalp's outer layer. Test procedures are created in tandem with the development of hair care products so that customers may be supplied goods that live up to their claims. Products that resemble topical medicinal agents are developing thanks to the development of cosmetics with pharmaceutically active ingredients. The criteria established by the medications minoxidil and. more recently, oral finasteride, should be used to evaluate the effectiveness of cosmeceuticals that claim to serve as hair growth boosters. Jack J. Mausner has invented a liquid shampoo that comprises biologically derived protein detergent and that offers extraordinary mildness to the hair and scalp in addition to having hair nourishing characteristics.

Based on a yarrow extract, a hair care cosmetic composition has been created for the treatment of hair, especially greasy hair. A suitable carrier and a Yarrow flower top dry extract that is nonallergenic were used to create this mixture. Less than 0.5% of the extract's weight is made up of polyphenolic compounds.

Buck has developed a technique for treating androgenic alopecia that involves applying Liquor Carbonis Detergens topically.

OTHER COSMECEUTICALS-

Subcutaneous fat and oil glands are absent from the skin behind the eyes, hence solutions that target this region specifically and gently should be developed. In order to restore and heal this sensitive skin and slow the onset of premature aging, it should be protected and given enough of moisture. There are several cosmeceutical eye creams containing helpful nutrients and natural emollients on the market. Zia Natural Skincare, for instance, has two distinct eye lotions. Green tea, tiare flower, antioxidant vitamins A, C, and E, and a non-greasy base make up The Ultimate Eye Crème. According to Jensen, "The Essential Creme is great for recovery after sad movies, and it's great for allergic and puffy eyes." Butcher's broom, chamomile, and vitamin E are among the components that have therapeutic properties. Butcher's chamomile. vitamin E. broom. antioxidants vitamins A, C, and E, green tea and tiare flower, Ginkgo biloba, as well as cucumber, calendula, and a-bisabolol, an active component of chamomile, to soothe inflamed skin, are among the other beneficial components. Yeast, a vital component in eye lifting moisture cream, helps to fill in wrinkles while treating puffiness, irritation, and protecting against further skin damage. The eye wrinkle treatment often includes wheat germ and corn oil, squalene, and carrot extract to

help prevent the appearance of wrinkles. Aosain, an algal extract from seaweed in eye firming fluid, aids in the skin's elasticity maintenance.

NANOTECHNOLOGY IN COSMECEUTICALS-

The cosmetics sector is expected to benefit greatly from nanotechnology, which is seen as the most imminent technology of the twenty-first century. The terms "nanotechnology" and "technology" are a combination of the Greek word "Nano," which meaning billionth, and the word. In general, nanotechnology or nano-scaled technology refers to objects smaller than 100nm (10-9 m). The personal care industry's fastest-growing segment is known as cosmetics. Despite the immense advantages of nanoparticles, little is known about their immediate and longterm effects on the environment and living things. Due to the observed toxicity and potential hazards of the nanomaterials, safety concerns have been raised.

MAJOR CLASSES OF NANOCOSMECEUTICALS-

MOISTURISERS- A thin layer of humectant is created on the skin when moisturizers are applied, helping the skin to retain moisture and look better. Because of their long-lasting benefits, moisturizing formulations including liposomes, nano emulsions, and SLNs are often employed. These are regarded as the most practical products for treating a variety of skin disorders.

SUNSCREENS- Sunscreens are often used to shield the skin from the sun's damaging rays after exposure. Sunscreens are used to protect skin against UVB (290-320 nm) and UVA (320-400 nm) radiation's harmful effects. The protection factor against UVA should make up at least one-third of the total sun protection factor, according to the US Food and Drug Administration. As inorganic physical sun blockers, sunscreens usually include the minerals titanium dioxide and zinc oxide. The combination of these particles ensures broad-band UV protection since TiO2 is more effective in the UVB region and ZnO in the UVA range.

ANTIAGING PRODUCTS- Skin aging is influenced by chemical compounds, pollution, stress, pollution from infrared and UV sources, and abrasion. In order to rejuvenate the skin and reduce the appearance of wrinkles, collagen is crucial. As people become older, their skin produces less collagen. The effects of aging on the skin include drying, loss of elasticity and texture, thinning, impaired barrier function, the emergence of spots, changes in surface line isotropy, and, ultimately, wrinkles. The majority of cosmeceuticals have been created with promises of firming and moisturizing, antiwrinkle and anti-firming, and skin toning and whitening activities. The majority of cosmeceuticals on the market today that nanotechnology use are antiaging products. In products like Revitalift cream. antiwrinkle which includes nanosomes of Pro-Retinol A, L'Oréal claims to have used nanotechnology to rapidly retune the skin and lessen the wrinkles. appearance of Retinol application may boost collagen production while increasing epidermal water content, epidermal hyperplasia, and cell renewal. Additionally, retinol prevents matrix metalloproteinases, which are involved in collagen degradation, and melanogenesis.

HAIRCARE- Another interesting area for nanotechnology is hair care. Research is continuing to learn how nanoparticles may



be utilized to prevent hair loss and to preserve the luster, silkiness, and health of and companies are already hairs. incorporating nanotechnology in their hair care products. In contrast to standard hair straightening products In order to get into the hair strands, nano emulsion in hair cosmetics does not damage the cuticles, which are the exterior structure of the hair fibers. Many cosmeceuticals include sericin nanoparticles, which are known to provide shine and softness and encourage the preservation of color in coloured hair.

SKIN CLEANSER- Over thousands of years, the practice of washing has evolved from just scraping the skin to a calming activity that enhances the look of healthy skin. Although they have undergone a number of alterations, soaps were formerly the primary cleaning agents. For people who use topical medicines, have sensitive or impaired skin, or use cosmetics, skin cleansers may be a crucial addition to their daily routine. In order to make it easier to remove dirt, oil, and bacteria from the skin's surface, cleansers emulsify these substances. Silver nanoparticles are utilized to clean and cleanse the skin. Nano Cyclic Inc. has created Nano Cyclic pink scientifically cleanser soap, a balanced combination of Nano silver and natural substances that is said to reduce age spots and sun damage, eliminate dangerous germs and fungus, and treat acne. Collagen and sericin are also present.

OTHERCOSMECEUTICALSCOMMONMYTHSANDMISCONCEPTIONS-Image: Content of the second secon

Cosmetics are exposed to a lot of misunderstandings. Many customers think that cosmetics are subject to regulation and drug testing. Additionally, they think that the safety of the materials and finished goods has been evaluated, and they accept the veracity of advertising promises. The overlap between cosmetics and pharmaceutical substances has never been greater, yet their regulatory frameworks varies greatly as a result of the many Congressional requirements placed on the Food and Drug Administration. Doctors are well-positioned to educate patients and prospective cosmeceutical users on the advantages and practical restrictions of these products.

THE TOXICITY OF COSMECEUTICALS-

The phrase "natural" is one that is widely used for cosmeceuticals and, consciously or unconsciously, implies safety. The antioxidant P-hydroxyanisole promotes skin pigmentation, whilst vitamin E has been proven to exacerbate contact dermatitis. It has also been shown that certain peptide components are The biggest risk carcinogenic. may perhaps come from willful adulteration and the addition of hazardous substances like steroids and retinoids, microbial contamination has reportedly had negative effects.

REGULATORY ASPECTS OF COSMECEUTICALS-

Although there is no official legal category termed "cosmeceuticals," this word has come to be used and accepted to describe items that sit on the boundary between cosmetics and medicines. Regulatory bodies have not yet publicly recognized cosmeceuticals. Cosmetics are not subject to FDA or any other comparable agency's assessment. The USA, Europe, Asia, and other nations have not unified their laws on cosmeceuticals. As a result, more regulations cosmeceuticals for are required, which would necessitate the need



for safety evidence that is not required for cosmetics [29].

CONCLUSION-

According to the literature review, cosmetics are not medications, despite their claims to have a drug-like effect. The "cosmeceutical" word has no legal definition. The topical pharmaceuticalcosmetic hybrids known as cosmeceuticals, which include biological actives meant to improve the appearance and health of the skin, are not subject to FDA assessment.

Furthermore, it has been highlighted that the high demand for skin cosmeceuticals has prompted the creation of products that fight the effects of aging skin, lessen erythema, and level out tone and pigmentation. These cosmeceuticals may aid in both preventing photodamage to the skin and, in certain cases, repairing it by encouraging the generation of new collagen.

Additionally, it has been recognized from the literature that hair cosmeceuticals often include active ingredients that stimulate hair growth or enhance aesthetic aspects of hair including texture, gloss, manageability, etc.

In addition to cosmeceuticals for the skin and hair, active ingredients are also added to a variety of cosmetics for the lips, nails, and under the eyes. If used, nanotechnology is a technology that will aid in the administration of tailored medications.

The primary and most significant technological advancement of the twentyfirst century, nanotechnology promises fantastic economic and research potential. Rapid adoption and commercialization of nanotechnology in cosmetics have raised high technological and economic hopes, but they have also raised concerns about new threats to consumer health and safety. Finally, it is determined that cosmeceutical goods based on nanotechnology should be created and distributed in a manner that completely respects both the environment and consumer health.

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