A COMPREHENSIVE REVIEW ON COSMECEUTICAL

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ABSTRACT

Nowadays a new hot topic in the cosmetic industry is 'Cosmeceuticals', which is the fastest growing segment of the natural personal care industry. Cosmeceuticals are the future generation of skin care. They are the advances made within the world of dermatological products and the new backbone in skincare. All cosmeceuticals claim to contain functional ingredients with either therapeutic, disease-fighting or healing properties. The term Cosmeceutical was coined by Raymond Reed but the concept was further popularized by Dr. Albert Kligman in the late 1970's. Cosmeceuticals are topically applied as cosmetic Pharmaceutical hybrids, intended to enhance the beauty through ingredients that provide additional health-related function or benefit. That means they are applied topically as cosmetics, but contain ingredients that influence the skin's biological function. Today's Cosmeceuticals are serving as a bridge between personal care products and pharmaceuticals; also Cosmeceuticals are the fastest growing segment in skin care market. There is no regulatory category for Cosmeceuticals; hence this review tries to understand regulatory scenario as well the difference between drug and cosmetics is enlightened. The paper is an earnest endeavor to evaluate a Cosmeceutical product that claims a beneficial physiologic effect. This review paper is to give recent knowledge about the latest trend of cosmetic Industry Cosmeceuticals.

Keywords: Cosmeceuticals, cosmeceutical chemistry, regulatory aspects, skin cosmeceutical

I. INTRODUCTION

Cosmeceuticals are future generation of skin care. They are the advances made within the world of dermatological products and the new backbone in skincare. Cosmeceuticals are typically cosmetic-pharmaceutical hybrids intended to enhance the health and beauty of skin. Some cosmeceuticals are naturally-derived while others are synthetic, but all contain functional ingredients with either therapeutic, disease-fighting or healing properties. Raymond Reed, founder of the U.S. Society of Cosmetic Chemists, created the concept of "cosmeceutical" in 1985. The "Ebers" a medical papyrus written in 1600 BC, made frequent reference to several cosmeceutical-type products. For many medieval Arab physicians and their European counterparts, there were no distinctions among cosmetics, fragrance and herbal medicines. Their research and development work covered all these disciplines simultaneously. Separation of the cosmetic and toiletries, industry from medicines, and pharmacy was 19th century.

CLASSIFICATION OF COSMECEUTICALS: The term Cosmeceuticals can be used with different terms. For all the terms the definition remains the same i.e. Cosmeceuticals formulations which are neither pure cosmetics, like lipsticks, nor pure drug, like corticosteroids. It is a hybrid category of products lying on the spectrum between drugs and cosmetics. The various terms by which Cosmeceuticals can be substituted are active cosmetics, nutricosmetics, performance cosmetics, functional cosmetics, and dermaceuticals. Cosmeceuticals basically can be classified into following categories: 1) Skin cosmeceutical product- Antiaging creams, Moisturizers, Facial products and Lotions. 2) Hair cosmeceutical product- Gel and creams, Hair colorants and Dyes, Shampoos, Growth Stimulators and Conditioners. 3) Others- Lipstick, Nail polish, Toothpaste and Powders. SKIN COSMECEUTICALS Cosmeceuticals are the cosmetic products that have medicinal or drug-like benefits are able to affect the biological functioning of skin owing to type of functional ingredients they contain. These are skin-care products that go beyond coloring and adorning the skin. Such products improve the functioning/texture of the skin by encouraging collagen growth by combating harmful effects of free radicals, thus maintaining keratin
II. COMMONLY USED SKIN COSMECEUTICALS

1) Hydroxy Acid: Hydroxy acid also referred to as fruit acids; they are a common ingredient found in many cosmeceutical products. Examples include citric acid, malic acid, and lactic acid. AHAs improve skin texture and reduce the signs of aging by promoting cell shedding in the outer layers of the epidermis and by restoring hydration. One hypothesis suggests that AHAs reduce the calcium ion concentration in the epidermis and, through chelation, remove the ions from the cell adhesions, which are thereby disrupted, resulting in desquamation. This is enhanced by cleavage of the endogenous stratum corneum chymotryptic enzyme on the catherins, which are otherwise protected from proteolysis by conjugation with calcium ions. The resulting reduction of the calcium ion levels tends to promote cell growth and slow cell differentiation, thus giving rise to younger looking [3].

2) Botanicals: Botanicals comprise the largest category of cosmeceutical additives found into the market place today. Some botanicals that may benefit the skin include green tea extract, ferulic acid, and grape seed extract. Ferulic acid: This compound, which is derived from plants, is considered to be a potent antioxidant, and has been shown to provide photo protection to skin. Furthermore, when ferulic acid is combined with vitamins C and E, the product has been shown to provide substantial UV protection for human skin. Moreover, Murray et al. reported that because its mechanism of action is different from sunscreens, ferulic acid could be expected to supplement the sun protection provided by sunscreens. Grape Seed Extract: This botanical has been established as a potent antioxidant and has been shown to speed wound contraction and closure. Topical application of grape seed extract has also been shown to enhance the sun protection factor in humans [3].

3) Depigmenting Agent: Skin-lightening agents added to product formulations have become increasingly popular and such products are in demand. Common depigmenting ingredients include hydroquinone, ascorbic acid (vitamin C), kojic acid, and licorice extract (glabridin). Hydroquinone: Hydroquinone has been the popular agent of choice for skin lightening. The US FDA has proposed concentrations between 1.5% and 2% in skin lighteners. A recent study suggests that this concern has been based mainly on studies with animal models utilizing long-term exposure at high dosages are carcinogenic. Routine topical application may pose no greater risk than that from levels present in common foods.

4) Exfoliants: Exfoliants promote skin turnover by removing adherent cells in the stratum corneum. Common exfoliants found in cosmeceutical preparations include salicylic acid (SA), lactic acid, and glycolic acid. AHAs improve skin texture and/or hair pigmentation [2].

5) Moisturizers: Moisturizers restore water content to the epidermis, and provide a soothing protective film. They improve the appearance and tactile properties of dry and aging skin, restore the normal barrier function of the skin, and reduce the release of inflammatory cytokines. Moisturizers comprise an important therapeutic component in the management of various skin conditions (e.g. eczema, psoriasis, pruritus, and aged skin).

6) Topical Peptides: Topical peptides are regarded as cellular messengers that are formed from amino acids and are designed to mimic peptide fragments with endogenous biologic activity. These pentapeptides (e.g. KTTKS) are comprised of a sub fragment of type I collagen propeptide, and play a role in signalling fibroblasts to acid could be expected to supplement the sun protection provided by sunscreens. Grape Seed Extract: This botanical has been established as a potent antioxidant and has been shown to speed wound contraction and closure. Topical application of grape seed extract has also been shown to enhance the sun protection factor in humans [3].

7) Retinoids: Retinoids are among the most common ingredients found in cosmeceuticals. In fact, they are the most studied and have the most data behind them. They consist of natural and synthetic derivatives of vitamin A that reduce hyperpigmentation and inhibit enzymes from breaking down collagen [3].

8) Sunscreen: Sunscreens are the single most important cosmeceutical, because they protect skin against solar radiation, which is the most important damaging environmental agent. As a result, they help to prevent the signs of aging. To be effective, sunscreens should provide broad spectrum coverage that includes both UVA and UVB blocking agents to inhibit photoaging and be part of a daily skin care regimen. Sunscreens contain active ingredients that act as ultraviolet filters.

9) Antioxidants: Antioxidants reduce free radical damage, thereby preventing impairment at the cellular level. They inhibit inflammation, which leads to collagen depletion, and they offer protection against photodamage and skin cancer. Common antioxidants include alpha-lipoic acid (ALA), L-ascorbic acid (vitamin C), niacinamide (vitamin B3), N-acetyl-glucosamine (NAG), α-tocopherol, and ubiquinone.
III. CONCLUSION

The usage of cosmeceuticals has drastically hiked in recent years, which in turn has increased the spectrum of the physician to broaden their range of products to enhance the comeliness of the patients associated with dermal problems. However, at times, where generations are keenly worried for their beauty, lots of manufacturing companies are competing and working hard to provide convincing results to meet requirements of the patients. Claims of effectiveness lack convincing evidence, thus the industry is challenged to provide evidence on the effectiveness of these compounds. Cosmeceuticals like vitamins, sunscreens, hydroxyl acids & many more have proved their efficacy in treating skin diseases thus enhancing the skin texture. Clinical trials of cosmeceuticals are important to know the interaction between skin and cosmeceuticals which could even be influenced by environmental fact.

IV. REFERENCES
