

CHAPTER

4

NANOCOSMECEUTICALS FOR ADVANCE VEHICLE OF ACTIVE CONSTITUENT IN SKIN CARE FORMULATIONS

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4.1 INTRODUCTION

Skin is the main shield to protect body from exposure to free radicals. There are numerous types of free radicals that can be generated by UV (ultraviolet) rays, dust, exposure to chemicals, and air pollution (Juliano & Magrini, 2018). Free radicals are extremely harmful to human skin. The consequences that one might face from free radicals are damaging the elastin skin structure and the production of collagen, which eventually leads to the formation of wrinkle lines, thus causing the skin to become less elastic.

Moreover, it might interrupt the dissemination of melanocytes and melanin pigment, which may result in uneven pigmentation and skin cancer. The conception of a youthful or perfect skin can be determined by the number of features of the dermis and epidermis, including the quality and density of the extracellular matrix, variations of natural fluorescence in skins, and the supply of cells to the connective tissues (Thibane et al., 2019).

Consequently, skin physiology can be predicted from a variety of skin conditions, such as acne, abnormal pigmentation, and xerosis (Thibane et al., 2019). Hence, the skin lesions evolved in response to nutritional deficiencies. Therefore, the amalgamation of cosmetic skincare products and over-the-counter (OTC) supplied through a regimen able to play a remarkable role in guiding consumers to rebuild their beautiful and healthier skin again (Zhang & Fong, 2020). A good existence of natural ingredients in skin care products improves skin conditions in these situations. To gratify the large number of consumers as a proportional increase in consumer demand for cosmetic product efficacy, it is indeed getting more difficult to distinguish between the active pharmaceutical ingredient and topical application of cosmetics (Vollmer et al., 2018).

4.2 DEVELOPMENT OF COSMETIC

Cosmetics can be described as products that enhance the attractiveness of the skin, intensify the cleaning, and amplify the appearance of the skin. As claimed, Egyptians were attributed to using cosmetics even in 4000 BC, and subsequent cosmetics were developed by Greeks, Chinese, Romans, Americans, and Japanese (González-Minero & Bravo-Díaz, 2018).

In comparison, Asian cosmetics are among the best-performing demands, which has been documented to increase the market value of Asia Pacific to more than USD70 billion, while according to data from the Malaysia External Trade Development Corporation (MATRADE), Malaysia's cosmetics market in 2019 was worth USD5 billion. The country's exports of Halal cosmetics products saw a 68% increase from 2012 to 2017 from USD433 million to USD725 million.

Numerous cosmetics now claim to protect against pollution and environmental harm. Is this conceivable? Yes, but some explanation is necessary.

Air pollution is made up of small, highly reactive nanoparticles that are generated during combustion. Combustion happens when fuel is burned in a vehicle engine, coal is burned to power plants, waste is burned in an incinerator, or trees are burned in a forest fire. When these nanoparticles

come into contact with the skin, they create reactive oxygen species, which cause skin damage by perforating elastin fibers and dermal collagen.

The reactive oxygen species will not develop if the nanoparticles are not allowed to come into contact with the skin, and no harm will result. Most moisturizers and foundations for the face apply a thin coating of an oily occlusive material to the skin's surface. Dimethicone, mineral oil, and shea butter may be used to create this layer. Because the nanoparticles are on top of the film, they are unable to enter and contact the skin, preventing skin injury. As a result, absolutely. It is feasible to protect one's skin against environmental harm, but any substance that forms a film will achieve this (González-Minero & Bravo-Díaz, 2018).

In Malaysia, over 60,000 forms of cosmetics are available in the local market. The Malaysian cosmetics company appears to be using a competitive strategy to purchase costly products in installments and encourage a high discount for branded cosmetics. Consequently, the marketing of branded products is growing in order to obtain the maximum degree of visibility for such products. In addition, an extraordinary discount is provided on premium cosmetics, which corresponds to sustaining the demand for cosmetics to be active among consumers as well as other cosmetic brands.

Malaysian customers are currently influenced by the offer of market promotion, and they are looking for cosmetics whenever a discount is available, particularly for premium products. Admittedly, Malaysian customers tend to purchase beauty products from top brands that are specifically promoted to enhance their youthful appearance. An enormous amount of brand cosmetics is highly competitive, with new brands as well as other brands available in beauty shops, promotional stores, and pharmacies. The most efficient ways to improve the purchasing rate of cosmetic products among consumers are advertisements in the media, newspapers, and magazines (Naseri, 2021).

Since the twenty-first century, a number of multinational corporations have dominated the cosmetics industry. There are six major categories in the global cosmetic industries; eventually, skincare will lead with 36.4% of the global market in 2016. However, as Generation Y has grown more