

Chapter 16

Camel Milk Disguised Cosmeceutical

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ABSTRACT

This chapter conveys the untapped property of camel milk as cosmeceutical. The camel milk ingredients (i.e., water, ascorbic acid, alpha hydroxy acid, polyunsaturated fatty acid, peptides, and micronutrients) make it a cost-effective cosmeceutical with no adverse cutaneous or systemic reactions. It may be used as a photoprotective, moisturizing, anti-wrinkle, anti-aging skin softener. The bioactive ingredients may begin the new class of natural cosmeceutical when consumed orally or applied topically.

INTRODUCTION

The life on earth take place in a wonderful “ecological system” where the members of the animal kingdom exemplify great deal of interdependence. The symbiosis between the human (*Homo sapiens sapiens*) and the camel (*Camelus dromedaries* and *Camelus bactrianus*) is not an exception to this statement. Both serve each other for better co-existence. Camel and human are, therefore, good environmental friends. Camel repays, out of proportion to humans, through the medicinal values of milk and other properties (Al Haj & Al Kanhal, 2010). The potential therapeutic properties and disease preventing of camel milk was discussed in Chapter 7 and 8.

Camel, a precious species, is not only emblematic to certain geographical terrains but is also considered as a symbol of status and wealth. It was being used as mode of transport, communication and trade in historical sagas in arid zone. But in modern era too, camel is offering source of incomes to the camel producers. Camel milk, wool, dung, meat, leather, bones etc. are the viable source of livelihoods for the owners (Köhler-Rollefson & Rathore, 2004).

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The chemical composition of camel milk (Kula & Tegegne, 2016; Galali & Hanee, 2019) makes it, a suitable candidate not only for health effect, but also for cosmeceuticals. Despite of synthetic compounds, certain natural ingredients of camel milk make it, a good cosmetic product (Rasheed, 2018). The dual advantage of camel milk lies in the fact that it cannot only be used topically but its ingestion also helps in enhancing beauty.

The use of pharmaceutical knowledge in the field of beautifying the skin and its appendages has created a new 'world' and 'word' of cosmeceuticals. Kligman coined this term to describe a good number of pharmacological products which had an evidence of proven biological activity to metamorphose the aesthetic appearance of an individual. (Baumann, 2003; Draelos, 1995; Shah, 2005).

THE HUMAN SKIN CARE BY COSMETICALS

The normal skin care has got four pillars to maintain the health of inherited skin and to augment its beauty (Sachdeva & Khunger, 2010). These can be grouped as (i) cleansers, (ii) toners, (iii) moisturizers, and (iv) nutrients.

Cleansers are the products which are used to remove superficial dirt, grease, bacteria and desquamated keratinocytes. These include soaps, synthetic detergents, syndet bars and lipid free cleansing agents (Draelos, 2018). The chemical composition of soaps is fatty acids, glycerine, triglycerides, lanolin, paraffin, mineral acids, stearic acids, sodium lauryl sulphate, acrylate, propylene glycol etc.. The quality components in camel milk i.e. fatty acids, sterol, lanolin, make it, a versatile source for soap production (Mills, Berger & Baker, 1993).

The **toners** are lotion or wash used to cleanse the skin and shrink the appearance of pores, usually used on the face by applying facial mask. Three types of skin toners are described: (i) fresheners (or skin bracers) containing water and humectant as glycerine and a little alcohol; the most popular toner being rosewater, (ii) skin tonics which contain up to 20% alcohol, water and humectant ingredient, used for normal and oily skin; orange flower is the more popular example, (iii) astringents which contain a high proportion of alcohol (up to 60%), antiseptic ingredients, water and a humectant ingredient; they are used to remove excess protective lipids. For this kind of products are not based on camel milk components.

Moisturizers are the cosmeceuticals which improve the hydration of skin, to make it, normal in appearance and give the person a normal or even euphoric feel, psychologically (Spencer, 1988). The components of a moisturizer are water, animal fats, silicon, phospholipids, hyaluronic acid, glycerine, propylene glycol, etc. Different combinations and permutations act synergistically to keep the skin hydrated and moist. This property of moisturizers creates an interface between skin and ultraviolet radiations thus providing a means of photoprotection. This mode acts as a preventive tool against photoaging (Wilhelm, Cua & Maibach, 1991). The high-water content (86-88%) of camel milk creates a vast scope to be used as basic constituent of moisturizer group of cosmeceuticals. Alpha lipoic acids, essential fatty acids (linoleic acid, linolenic acid and arachidonic acid), retinoids, vitamin c, vitamin e, peptides, animal oils (squalene, mink oil, lanolin, emu oil) act as moisturizers. Silicone and hyaluronic acid work as humectants. These may be derived from animal sources.

Nutrients are acting in the nutrition of skin. This is a very important factor to keep the skin glowing, smooth and give the 'ever young appearance (Mason, 2012). The essential nutrients required for maintaining the normal health of skin and improvising it, are vitamin A (Retinoids), β -carotene, vitamin C,

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