



ANTI-AGEING HERBAL FACE CREAM

Nitin Sharma†, Lalit Singh, Shashi Verma, Baleshwar Shakya

Department of Pharmacy, Shri Ram Murti Smarak College of Engineering and Technology, Bareilly, Uttar Pradesh, India.

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Corresponding Author:

† Nitin Sharma

Email: nspriva6jan@gmail.com

†Shri Ram Murti Smarak College of Engineering and Technology (Pharmacy), Bareilly-243202, (U.P.), India.

ABSTRACT

The purpose of this study was to prepare an anti-ageing poly-herbal face cream by mixing the ethanol extract of *C. Sativum* and rose hip oil in order to produce multipurpose effects on the skin such as fairness, softening and antiseptic effects. Herbal anti ageing cream helps to delay the onset of sagging skin and significantly firms up the skin to unveil your natural, healthier & younger looking skin. It also reduces appearance of wrinkles and age spots naturally and helps to prevent premature signs of aging.

Keywords: Anti-aging creams, Skin aging, wrinkles, herbal products.

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INTRODUCTION

Skin aging is a part of a natural human "aging mosaic" which becomes evident and follows different trajectories in different organs, tissues and cells with time. While the aging signs of internal organs are masked from the ambient "eyes," the skin provides first obvious marks of the passing time. Skin aging is a complex biological process influenced by combination of endogenous or intrinsic (genetics, cellular metabolism, hormone and metabolic processes) and exogenous or extrinsic (chronic light exposure, pollution, ionizing radiation, chemicals, toxins) factors. Anti-ageing treatments protect your skin from ageing with the help of cosmetics, surgeries, exercises, diet, etc. This section provides tips from experts on how you can keep your skin from ageing, what methods you can adopt as well as articles on whether or not the latest treatments available are good in the long run. Skin aging can be caused by both intrinsic (natural) genetically determined factors and extrinsic lifestyle-driven and environmental factors [1]. Intrinsic aging is a biological process common to all living organisms and is characterized by an age-dependent deterioration of skin function and structure [2]. Naturally aged skin is pale and finely wrinkled [3]. Extrinsic aging is mainly caused by photo damage resulting from UV radiation and can be characterized by the deterioration of the dermal connective tissue [4]. As people age, they become increasingly concerned about the appearance of their skin. In fact, extrinsic aging caused by photo damage reflects the cutaneous histological and functional changes induced by chronic and repeated exposure to UV radiation [5]. Skin aging is characterized by a progressive reduction in skin thickness.

Furthermore, changes occur in both the epidermis and dermis that are expressed as wrinkles, dry and rough skin, cell proliferation and structural abnormalities, irregular pigmentation, and the degeneration of dermal elastic fibers [6].

Skin aging is a complex biological process influenced by a combination of endogenous or intrinsic and exogenous or extrinsic factors. Because of the fact that skin health and beauty is considered one of the principal factors representing overall "well-being" and the perception of "health" in humans, several anti-aging strategies have been developed during the last years. It is the intention of this article to review the most important anti-aging strategies that dermatologists have nowadays in hand, including preventive measurements, cosmetological strategies, topical and systemic therapeutic agents, and invasive procedures [7].

World Health Organization (WHO) as well our country has been promoting traditional medicine because they are less expensive, easily available and comprehensive, especially in developing countries. It is also true that eight percent of the world's population relies on medicinal plants for their primary health care. The whole world including the developed country recognized the importance of traditional medicine and has treatment strategies, guidelines and standard for ethnomedicine [8]. Coriander (*Coriandrum sativum* L.) which belongs to the family Apiaceae (Umbelliferae) is mainly cultivated from its seeds throughout the year. All parts of this herb are in use as a flavouring agent and/or as traditional remedies for the treatment of different disorders in the folk medicine systems of different civilisations.

It mostly contains essential oil and fatty oil. The rosehip seed oil (RHO) is extracted from the seed of the fruit of the wild plants of *Rosa* species such as *Rosa canina*, *Rosa rubiginosa*, *Rosa moschata* belonging to the family Rosaceae. It contains polyunsaturated fatty acid especially linoleic acid (54%), linolenic acid (17%) and oleic acid (16%) between others [9-11].

The exposure to ultraviolet radiations (UVR) is the key source of skin sunburn; it may produce harmful entities, reactive oxygen species (ROS), leading to aging. The skin can be treated and protected from the injurious effects of ROS by using various pharmaceutical formulations, such as cream. Cream can be loaded with antioxidants to quench ROS leading to photo-protective effects. Moreover, modern medicines depend on ethno-botanicals for protection or treatment of human diseases. This review article summarizes various *in vivo* antioxidant studies on herbal creams loaded with phyto-extracts. These formulations may serve as cosmeceuticals to protect skin against injurious effects of UVR. The botanicals studied for dermatologic use in cream form include *Acacia nilotica*, *Benincasa hispida*, *Calendula officinalis*, *Camellia sinensis*, *Camellia sinensis*, *Nelumbo nucifera*, *Capparis decidua*, *Castanea sativa*, *Coffea arabica*, *Crocus sativus*, *Embllica officinalis Gaertn*, *Foeniculum vulgare*, *Hippophae rhamnoides*, *Lithospermum erythrorhizon*, *Malus domestica*, *Matricaria chamomilla* L., *Moringa oleifera*, *Morus alba*, *Ocimum basilicum*, *Oryza sativa*, *Polygonum minus*, *Punica granatum*, *Silybum marianum*, *Tagetes erecta* Linn., *Terminalia chebula*, *Trigonella foenumgraecum*, and *Vitis vinifera*. The observed anti-aging effects of cream formulations could be an outcome of a coordinating action of multiple constituents. Of numerous botanicals, the phenolic acids and flavonoids appear effective against UVR-induced damage; however the evidence-based studies for their anti-aging effects are still needed [12].

Cosmetic products are used to protect skin against exogenous and endogenous harmful agents and enhance the beauty and attractiveness of skin. The use of cosmetics is not only developing an attractive external appearance, but also towards achieving longevity of good health by reducing skin disorders. The synthetic or natural ingredients present in skin care formulation that supports the health, texture and integrity of skin, moisturizing, maintaining elasticity of skin by reduction of type I collagen and photo protection etc This property of cosmetic is due to presence of ingredients in skin care formulation, because it helps to reduce the production of free radicals in skin and manage the skin properties for long time. The cosmetic products are the best choice to reduce skin disorders such as hyper pigmentation, skin aging, skin wrinkling and rough skin texture etc. The demand of herbal cosmetic is rapidly expanding. *Daucus carota* have the highest β -carotene, a precursor of vitamin A, and also contain abundant amount of Vitamin C. Vitamin A also acts as a very good anti-oxidant which slows down the process of aging. Vitamin C produces collagen in the body which is an essential protein for making our skin elastic. It also prevents wrinkles on the skin [13-17].

Some earlier reported literatures and work:

Skin aging can be caused by both intrinsic and extrinsic factors. Ultraviolet (UV) radiation is the primary environmental factor which causes skin aging. The

expression of matrix metalloprotease-1 (MMP-1) was measured in vitro with significant difference ($p < 0.05$). A 12-week placebo randomized double blind controlled trial was conducted to evaluate the safety and clinical efficacy of a cream containing SR mixtures for application to human skin. Women between the ages of 43 and 58 years who were TE-type subjects according to SCM were selected and cream containing SR mixtures was applied for 12 weeks. The application of SR mixtures showed there was a significant improvement in both visual assessment and evaluation of wrinkle parameters (Rt; skin roughness, Rm; maximum roughness, Rz; average roughness, Rp; smoothness depth, and Ra; arithmetic average roughness) comparing the treatment group with the control group ($p < 0.05$). The results of this study indicate that the cream containing SR mixtures may improve skin wrinkles in TE-type subjects [18].

Creams were formulated based on the anti-oxidant potential of herbal extracts and its evaluation. *Punica granatum* leaves were shade dried and extracted by using soxhlet method with different solvents such as n-hexane, Benzene, alcohol and consistency of different metabolites. The creams were formulated with neem oil, jamul powder, carrot powder with different concentrations namely F1 to F4. The creams were to be stable during stability studies accordingly ICH guidelines $30 \pm 2^\circ\text{C} / 50 \pm 5\%$ RH and $40 \pm 2^\circ\text{C} / 75 \pm 5\%$ RH for 2 months. The real time stability studies were also conducted for 12 months. It can be concluded that herbal creams without side effects having antioxidant property can be used as provision of a barrier to protect the skin and avoid aging of the skin [19].

A Ayub and B Nath was to develop anti-ageing poly-herbal face cream by mixing the ethanol extract of *C. sativum* and rose hip oil in order to produce multipurpose effects on the skin such as fairness, softening and antiseptic effects. Ageing of the skin is the result of continuous "wear and tear" processes. Chronological skin aging is a universal and inevitable process; while in contrast, photo aging results from the UV rays of sunlight, and the damage becomes apparent in sun-exposed skin. Cream is defined as semisolid emulsions which may be oil-in-water (o/w) or water-in-oil (w/o) type and these semisolid emulsions are meant for external applications. In this study creams (o/w type) were formulated based on the anti-oxidant potential of herbal extracts and its evaluation. The creams were formulated with coriander oil, rose hip oil with different concentrations namely F1 to F6. The creams were to be stable during stability studies accordingly ICH guideline for 2 mo. *Coriandrum sativum* extract showed significant anti-oxidant activity with an IC50 value is $34.25 \mu\text{g/ml}$, while for ascorbic acid the IC50 value was $46.68 \mu\text{g/ml}$. It can be concluded that herbal creams without side effects having antioxidant property can be used as provision of a barrier to protect the skin and avoid aging of the skin [20]. Anti-aging creams are predominantly moisturizer based cosmeceutical skin care products marketed with the promise of making the consumer look younger by reducing, masking or preventing signs of skin aging. These signs are laxity (sagging), rhytids (wrinkles), and photoaging, which includes erythema (redness), dyspigmentation (brown discolorations), solar elastosis (yellowing), keratoses (abnormal growths), and poor texture. Despite great demand, many anti-aging products and treatments have not been proven to give lasting or major positive effects. One study found that the best

performing creams reduced wrinkles by less than 10% over 12 weeks, which is not noticeable to the human eye. Another study found that cheap moisturisers were as effective as high-priced anti-wrinkle creams. A 2009 study at Manchester University, funded by the manufacturer of the cream, showed that a proprietary blend of ingredients had a positive effect after six months of daily application when extrapolated to a twelve month basis of comparison. The statistical methods used to show this have been criticized. Traditionally, anti-aging creams have been marketed towards women, but products specifically targeting men are increasingly common. The belief in the benefits of anti-aging creams, along with their use, should be met with skepticism. Nearly every brand and type delivers information about the product being “scientifically tested” or “scientifically proven” however, the results of these studies are rarely made available to consumers. This suggests that the legitimacy of these studies and subsequent results are highly questionable. Aging is a natural process which is accompanied by normal physical, chemical, and biological changes in the body. These changes include facial and body wrinkling of the skin and this process is common to all human beings. To believe so easily that a cream could prevent and/or reduce the process of skin aging all on its own does not fit with how the world really works [21].

Anti-Ageing Creams and Products

A wide range of face creams, lotions and gels are easily available in the market. They claim to reverse ageing by reducing wrinkles and damage caused by the sun. Most of these creams are not scientifically tested for effectiveness and contain a variety of chemicals. What all anti-ageing creams mostly do is hydrate the skin and plump up the surface resulting in a radiant, soft tone and texture. Here are some posts to help you make the right choice [16, 17, 18-20].

Anti-Ageing Treatments and Procedures

Science has made it easy to reverse the effects of ageing. While cosmetics are an easy way out, surgeries and medicines are also one of the ways to turn round ageing [21-23].

Exercise and Anti-Ageing

Facial exercises help in toning the facial muscles and increase blood circulation. Facial yoga is one such form of exercise that helps tackle different problem areas of the face and rejuvenates your skin [24].

Home Remedies for Ageing Skin

The effect of ageing can be prevented effectively using natural products and commonly available ingredients at home. This is an inexpensive method to banish those wrinkles and reduce age spots [16, 17, 25-28].

Skin Care

Healthy and functioning skin barrier is important protector against dehydration, penetration of various microorganisms, allergens, irritants, reactive oxygen species and radiation. The skin barrier may be specifically adjusted to allow penetration. For this reason daily skin care may increase skin regeneration, elasticity, smoothness, and thus temporarily change the skin condition. However, it is necessary to stop the degradation of the skin primary structural constituents, such as

collagen, elastin, to prevent the formation of wrinkles. Although the technology required to suitably deliver these compounds into the skin has not yet been developed, some products do promote the natural synthesis of these substances except elastin enhancing. Another integral approach preventing wrinkle formation is the reduction of inflammation by topical or systemic antioxidants which should be used in combination with sunscreens and retinoids to enhance their protective effects [14-17, 25-29].

Topical Pharmacological Agents with Anti-Aging Properties

There are two main groups of agents that can be used as anti-aging cream components, the antioxidants and the cell regulators. The antioxidants, such as vitamins, polyphenols and flavonoids, reduce collagen degradation by reducing the concentration of FR in the tissues. The cell regulators, such as retinols, peptides and growth factors (GF), have direct effects on collagen metabolism and influence collagen production [12-15, 30].

The purpose of this study was to develop anti-ageing poly-herbal face cream by mixing the ethanol extract of *C. Sativum* and rose hip oil in order to produce multipurpose effects on the skin such as fairness, softening and antiseptic effects.

METHODOLOGY

Cream was prepared by emulsification methods, in which two phase separately heated upto 70°C. Aqueous phases was prepared by glycerine water, jamul powder, propylene glycol, zinc oxide, Sodium metabisulfite and methyl paraben etc, which was prepared by mixing the solid ingredients step by step. Another oil phase was prepared by using rest of the compositions except Coriander extract and lemon grass oil, which was added after mixing the both phases. Both the phases were mixed up with vigorous stirring in unidirectional way at 70°C, then after reducing the temperature to 35°C, both the Coriander extract and lemon grass oil were added in it.

Table 1: List of ingredients with their quantity

INGREDIENTS	CATEGORY	AMOUNT
Coriander extract	A.P.I	10 ml
Neem oil/Eucalyptus oil	A.P.I	10 ml
Glycerine	Moisturizer	10 ml
Jamul powder	A.P.I	2 gm
Bees wax	Base	20 gm
Propylene glycol	Moisturizer + vehicle	10 ml
Zinc oxide	Skin Whitener	5 gm
EDTA	Chelating agent	0.001 gm
Methyl Paraben	Preservative	0.01 gm
Propyl Paraben	Preservative	0.001 gm
Vit. E	Anti oxidant	1ml
Sodium metabisulfite	Anti oxidant	0.002gm
Olive oil	Vitamin A source	2 ml
Lemon grass oil	Flavouring agent	1ml
Purified water	Vehicle	Volume make upto 100gm

RESULT AND DISCUSSION

As the herbal face cream consists of the ingredients which have protective, smoothing and young looking action, so anti ageing herbal face cream may helps to prevent premature signs of aging. Rehydrates the skin, lifts sags and diminish fine lines.

CONCLUSION

While natural aging is genetically determined, extrinsic aging can be prevented. Aesthetic dermatology should contribute to "healthy aging" not only in cosmetic means by trying to erase time vestiges in skin but by also playing a significant part in prevention, regeneration, and delaying of skin aging combining knowledge of possible local and systemic therapy, instrumental devices and invasive procedures, filling the lack of scientific investigations and becoming one of the important focuses of the aging research. Herbal Anti Ageing Cream helps delay the onset of sagging skin and significantly firms up the skin to unveil your natural, healthier & younger looking skin. It may reduce appearance of wrinkles and age spots, naturally. Helps prevent premature signs of aging.

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