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THE WONDER HERB "SAFFRON" A REVIEW

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ABSTRACT

Beauty consciousness and the knowledge of application of herbs, minerals and animal products are as old phenomena as the human existence. Skin is the basic element of the external appearance. Beautiful skin of person gives perceptual experience of satisfaction. Ayurvedic science deals with cosmetology in a very precise way. Cosmetic drugs is widely been described as varnya, kustaghana, kandughana, vayasthapak, etc. some medicinal plants like haridra, manjistha, sariva, Chandan , saffron, Chandan, babul, ghritkumari, lavanga, ritha, etc. has been prescribed for beautification of skin, hair, etc . In these herbs saffron (crocus sativus) holds the reputation of a very good skin care herb as it is used to make complexion lighter, even and light dark spots due to its varnya, vishaghana, rasayan properties. It is one of the ingredient of some ayurvedic formulations like varanakaghrita, kumkumadhitailam, mahatrinakatailam which helps in improving glow and complexion of skin. Chemically it contains crocin, carotenoids, and include lycopene ,zeaxanthine etc. it is a natural beautifying agent having antioxidant, depigmentation, and antisolar properties.

***Keywords**: Beauty ,Saffron, Varnya, Skin*

INTRODUCTION

Skin is the most widely spread sense organ. The healthy skin reflects the healthy body. The skin is considered as a protective covering for more delicate and functionally sophisticated viscera. Cosmetology has been described very systematically in Ayurveda. Ayurveda also believes that true beautiful face is the reflection of ojas. (1)The concept of using herbs for beautification is well defined in Ayurveda. In Ayurveda beauty was defined in holistic terms and all-encompassing, the Ayurvedic definition of beauty conclude – "Roopam, gunam, vayastag, itishubhangakaranam." According to Ayurveda, there are three pillars of beauty. Roopam is outer beauty, Gunam refers to inner beauty and vayastyag means lasting beauty(2). Ayurvedic science deals with cosmetology in a very precise way. Charaka Samhita classified Cosmetic drugs asvarnya, kustaghana, kandughana, vayasthapak, etc. some medicinal plants like haridra, manjistha, sariva, Chandan , saffron, Chandan, babul, ghritkumari, lavanga, ritha, etc. has been prescribed for beautification of skin, hair, etc(3). In these herbs saffron (crocus sativus) holds the reputation of a very good skin care herb as it is used to make complexion lighter, even and light dark spots due to its varnya, vishaghana, vyangnashakproperties.(4)The red Saffron filaments are actually the dried stigmas of the coloured flowers of Saffron, which is a perennial spicy herb of Iridaceae family. The plant is botanically known as Crocus sativus L. and recognized as Red Gold in producer countries. The word saffron is originated from the French term Safran, derived from the Latin word Safranum that comes from the Arabic word as far that means 'yellow'. Etymologically, the word Crocus has its origin from the Greek word 'Croci' which means the weft, thread used for weaving on a loom. Sativus means cultivated, possibly a reference that it no longer grows wild. The Arabs called it, Zahafaran from which the name saffron appears to be derived. In Hindi it is called Keshar, in Sanskrit Kumkuma or Kashmiirajan and in Tamil

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Kungumapu. The flower of C. sativa is light purple, but it is the thread-like reddish-coloured stigma of the flower that is valued both as a flavouring and fragrance material and as a natural colorant. The three stigmas (25-30 mm long) of saffron flowers, drooped over the petals are picked from each flower by hand. It takes about 36,000 flowers to yield just 1 pound of stigmas(5). Different plant parts like peels , fruits, seeds, and rind of crocus sativus contain various biochemically active ingredients such as crocin, crocetin, and safranal in different proportions. These constiuents have dsemonstrated the health promoting effect through modulation of various biological and physiological processes(6).The first documentation of saffron's medical use was found in Assurbanipal library (668-627 BC); in inscriptions dated back to 12th century BC. It is one of the ingredient of some ayurvedic formulations like varanakaghrita, kumkumadhitailam, mahatrinakatailam which helps in improving glow and complexion of skin(7),DhanwantriNighantu has described saffron as " sharirkantivardhak"(8), raj Nighantu mentions it as "sharirshobavardhak"(9), inbhavaprakashNighantu it is said to be "varnaya"(10)

HISTORY OF SAFFRON

The word saffron derives from the Arab word zafaran, meaning yellow, and it was mentioned as far back as 1500 B.C. in many classical writings, One of the first historic references to the use of saffron comes from Ancient Egypt, where it was used by Cleopatra and other Pharaons as an aromatic and seductive essence, and to make ablutions in temples and sacred places. Saffron is harvested from the fall-flowering plant Crocus sativus, a member of the Iris family. It is native to Asia Minor, where it has been cultivated for thousands of years to be used in medicines, perfumes, dyes, and as a wonderful flavoring for foods and beverages. Arabs used saffron in medicine for its anesthetic properties. It was the Arabs who introduced the cultivation of saffron in Spain in the X century. Evidence of different kinds assures that saffron was an irreplaceable ingredient in the hispanic-arabic cooking of that age.

During the Middle Age, saffron became well known in Great Britain. The legend says that, in the period of Edward III, a pilgrim brought a bulb of saffron hidden in a hole in his stick from Middle East to the town of Walden. There the bulb was grown and reproduced giving prosperity to the town. During the Renaissance, Venice stood out as the most important commercial center for saffron. In that period saffron was worth its weight in gold, and even today it is still the most expensive spice in the worlds.(11)

HISTORICAL USE OF SAFFRON

Immune System & infections System	Immunostimulator	Antiinflammation	Arthritis & rheumatoid arthritis	anti-bacterial	anti-fungal -	
Skin	healing wounds	To refresh facial skin	To increase brightness of the body	To treat acne	Totreat erysipelas	Diaphoretic
Vision & eye	strengthen eyesight	blindness	To cure purulent eye infecticon	Corneal disease	Lacrimating	Anti cataract

SSSSSSSSReproductive System	Aphrodisiac	Impotency& generator of sperms	To facilitate hard delivery and delivery of placenta	To regulate menstrual cycle &dysmennhorea	Cure uterus pain
Urinary Tract & Kidney	Diuretic	Purifier of kidney and bladder	To cure infection of urinary tract	plus honey, facilitates passage of renal stone	

Gastrointestin al Tract	Strengthening liver and stomach	cure obstructions inside liver and spleen	To decrease appetite	To treat enlarged liver & enlarged spleen	Cure splenic disorders	Carminative
Respiratory System	Strengthening respiratory	dyspnea	Anti-asthma	To treat cough	Anti pertussis	

Cardiovascular System	Cardiotonic	Improving circulation	Preventing coagulation	To decrease resistance of coronary arteries	Help nutrients and drugs to reach the heart

Cycological Disorders	Against mental disorders	Relaxant	Anti stress	Anti depressant	To elevate mood	Anti anxiety
Central Nervous	To cure obstructions inside brain	To protect brain from oxygen deprivation	Treat neurasthenia	Treat apoplexy	Topical use in boiled water is good for severe headache	
General Effects	Antis-spasmodic	cure broken bones	Treat earache	Treat toothache	Cure edema	
	To invigorate the body	To strengthen senses	Sedative & febrifuge	Swelling and edema	antipoisionous	Treat alcoholisms

DESCRIPTION OF SAFFRON

Botanical name : Crocus Sativus

Family: Iridaceae

Kingdom : Plantae

Order :Asparagales

Genus : Crocus

Chemical composition: crocetin, crocin, picrocrocin, a-crocetin, B-crocetin, caretonoids that include lycopene, terpene alcohol, terpene ester, vitamins and antioxidants

Rasa :katu and tikta

Guna:snigdha

Virya:ushana

Vipaka:

Karma: varnaya, shiroroganashak, vranahara, vyangnashak, tridoshanashak, deepana, pachna, sughandita, mana prasadak, vishaghana, mutrala, alapavedhanahara, artavajanaka, vrishya, ruchikaraka, amashayautejhaka, vatanadishamaka.

Formulations having saffron in it

s.no	Formulation	Action
1	Varnakaghrita	Mukhakaantivardhak
2	Kumkumadhitailam	Mukhakaaantikara
3	Mahatrinakatailam	Twakaroganashaka
4	Vatapatraadhilepa	Mukhakaantivardhak
5	Pataranghadhilepa	Varna prasadhak

RESEARCH REVELATION OF SAFFRON

Antisolar and moisturizing properties

Pollens of the saffron were dried and powdered in a grinder. The experimental formulations included a homosalate (8%) lotion reference, lotions with 2, 4 and 8% of grinded saffron, and the control lotion base without saffron. The lotions containing saffron were prepared like homosalate lotion reference according to FDA. The sun protection factors (SPFs) of the formulations were determined by an in vitro spectrophotometry method. The moisture contents of the skin before application and after 30 min and 3, 5 and 7 h post-application of the formulations were measured in human volunteers using Corneometer. The results indicated that, there was no significant difference between the SPF values of the 4% saffron lotion and the homosalate lotion reference. However, the SPF of 8% saffron lotion was significantly more than that of homosalate lotion reference. These results showed that in equal concentrations saffron lotion could act as a better antisolar agent compared to homosalate. Furthermore, there were no significant differences in skin moisture saffron lotions and the control lotion without saffron during the 7 h post-application period. Saffron can be used as a natural UV absorbing agent. The 4% saffron lotion showed an SPF value equivalent to the 8% homosalate lotion reference by an in vitro method. There were no significant differences of skin moisture contents after

application of the saffron lotions and the control base lotion without saffron.(12)

Healing of second degree burns

Study was done to evaluate the efficacy of pollen of saffron extract cream in the treatment of thermal induced burn wounds and to compare its results with silver sulfadiazine (SSD) in rats. Animals were divided into four groups and administrated a topical cream including control, base, saffron (20%) or SSD (1%) at 24 hour after a burn injury that was induced by hot water. In special days, according to a pre-planned schedule, animal's weight, wound size, as well as skin histopathology were determined in different groups under topical treatments. On day 25, average size of wound was 5.5, 4, 0.9 and 4.1 cm2 in control, base, saffron and silver groups. The wound size of saffron group was significantly smaller than other groups. Histological comparison has shown that saffron significantly increased re-epithelialization in burn wounds, as compared to other cream-treated wounds. Although the exact mechanism of saffron is unclear, anti-inflammatory and antioxidant effects of saffron may have contributed to the wound healing. The results of this study raise the possibility of potential efficacy of saffron in accelerating wound healing in burn injuries.(13)

Depigmentation and anti erythemic property

The antioxidant activity of C. sativus extract was determined using DPPH method. Water in oil (w/o) topical cream of C. sativus extract (3 %) was formulated and compared with the base (cream without extract). Both creams (formulation and base) were applied to the cheeks of 10 healthy human volunteers for a period of 8 weeks. Melanin and erythema values of skin were measured with a mexameter. The antioxidant activity of the extract was 81 %. Change in the levels of skin melanin and erythema was -24.04 ± 3.23 and -13.57 ± 2.28, respectively, indicating that unlike the base, the formulation containing Crocus sativus extract produced significant ($p \leq 0.05$) depigmentation and anti erythemic effect on human skin.(14)

Antibacterial effect

Safranal and crocin were responsible for bactericidal effect in food contamination caused by Salmonella (15). Saffron petal was a effective antimicrobial in clothing and textile materials as a natural dye against Staphylococcus aureus, Escherichia coli, and Pseudomonas aeruginosa (16). The antibacterial action of different parts of the saffron plant such as stigma and callus both showed varying degrees of inhibitory effects on pathogenic bacterial strains. For example, saffron stigma extract was more effective in inhibiting Sigellaflexneri at lowest concentration, 400 µg.mL–1 compared to saffron callus, 750 µg.mL–1 (17). The ethyl acetate extract of various parts of saffron can be active against bacteria (Microccucosluteus, Staphylococcus epidermitis, S. Aureus, andE. coli) and fungi (Candida albicans, Aspergillus niger, andCladospourium sp.) (18).

DISCUSSION

Saffron is a spice known by many ancient civilisations for its various properties; especially the medicinal uses. The high SPF value of saffron's lotions may be related to the presence of many aromatic and flavonoid compounds such as kaempherol, quercetin in Crocus sativus. In addition, this photoprotective effect may be due to the phenolic components such as tannic, gallic, caffeic, cinnamic, chlorogenic, ferulic and vanillic acids in saffron .Caffeic acid, and with a greater degree, ferulic acid proved effective in protecting human skin from UVB-induced erythema. Ferulic acid, shown to be a strong UV absorber, is used as a photoprotective agent in a number of skin lotions and sunscreens.Ethanolic extracts of Crocus sativus showed anti-inflammatory effects in animal model. The release of pro-inflammatory mediators such as IL and TNF and reactive oxygen species are increased in patients with burn injuries. Thus, saffron may affect the healing of burns with its antioxidant and anti-inflammatory effects.

CONCLUSION

Saffron is king of super foods. It has been in use for thousands of years because of its special medicinal benefits. It is a small bulbous perennial spice derived from the flower of crocus sativus.Saffron extractis

usedin formulation of sun protection lotions and creams as an antioxidant for the reason of water-soluble carotenoids, crocin and croceticomponents, and antibacterial properties, it is a natural uv rays absorbing agent19. saffron has better wound healing effects in burn animals compared to silver sulphadiazine. It is having depigmentation properties as it changes the melanin level. We can use saffron as a natural beautifying agent in various formulations.

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