



HERBAL PRODUCTS FOR SKIN CARE

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Article Received on 10/08/2021

Article Revised on 31/08/2021

Article Accepted on 21/09/2021

ABSTRACT

Nature is recognized as the most valuable blessing to the human being, since all one needed to exist in this universe are provided in nature. Hence, from the ancient time, human beings used typical natural ingredients for their daily requirements such as medicines as well as cosmetics. Nowadays men and women are very much willing to look beautiful. Further they are very much conscious about their physical as well as mental fitness i.e. people like to live healthy. Skin is the largest organ of the human body. Hence, these conscious people show much interest in skin care activities. They have a tendency to use beauty products that include herbs to look younger and more charming.

KEYWORDS: Herbal cosmetics, Herbal facewash, antiaging, skin care, Advantages and disadvantages of Herbal medicine, Future challenges.

Cosmetics alone are not sufficient for proper skin care, so the addition of active ingredients is necessary to check the damage and ageing of the skin. Recently, herbal cosmetics have gained more popularity and more acceptability among the people than synthetic ones due to their lesser or almost nil side effects. In some cases, synthetic cosmetic products may cause severe damage to human skin as those products may contain harmful chemicals. Natural ingredients like herbs, fruits, flowers, barks, rhizomes, leaves, seeds, spices etc. have been used by both men and women all over the whole world and these ingredients are recognized as the best according to their choice. For this reason, at present times, in skin care cosmetic preparations, these natural ingredients are included directly or their extracts and essential oils are used randomly.

Herbal cosmetics are the preparations used to enhance and improve the human appearance. Natural beauty is blessing and cosmetics help in presenting and increasing the beauty and personality aspects of human beings. Saundarya prasada are the preparation, which represent cosmetic base correlate with known Ayurveda, Siddha and Unani (ASU) drugs active. Nature has offered the way to keep up that parity. Herbs! Yes herbs are one such means. An herb is a plant or plant extract, including leaves, bark, berries, roots, gums, seeds, stems and flowers which are favour with nourishing and healing elements. Cosmetics alone are not competent to take care of skin and others body parts, it requires association of active ingredients to check the casualty and ageing of the

skin. Herbal cosmetics have improved much popularity among the population. Herbal cosmetics products claimed to have efficacy and intrinsic acceptability due to routine use in daily life and avoid the adverse effects which are commonly seen in synthetic products.

The bioactive ingredients from botanicals include vitamins, antioxidants, various oils, essential oils, dyes, tannins, alkaloids, carbohydrates, proteins and terpenoids etc which serve as cosmetics for care of body and its parts. The herbal cosmetics manufactured and used commonly for daily purpose include herbal face wash, herbal conditioner, herbal soap, herbal shampoo etc. The industry is now focusing on the growing segment with a vast scope of manifold expansion in coming years.

CHAPTER 1- INTRODUCTION

The concept of beauty and cosmetics dates back to ancient mankind and civilization. Generally herbal cosmetics are also referred to as natural cosmetics. Herbal cosmetics are formulated, using different cosmetic ingredients to form the base in which one or more herbal ingredients are used to cure various skin ailments. Plants are highly used for development of new drug products for cosmeceuticals and pharmaceutical applications. Herbal cosmetics are the products in which herbs are used in crude or extract form.

The word cosmetic was acquired from the Greek word "kosmetikos" meaning having the power, order, skill in decorating. The birth of cosmetic is form a continuous

narrative throughout the history of man as they developed. The man in ancient times 3000 BC used colours for the decoration to charm the animals that he wished to hunt and also the man survived attack from the rival by colouring his skin and adorned his body for protection to provoke fear in an enemy (whether man or animal). The origin of cosmetics was associated with hunting, fighting, religion and credulity and later associated with medicine. Herbal Cosmetics, here referred as Products, are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic advantages only, shall be called as "Herbal Cosmetics". Beginning 1990's cosmetic manufacturer redesign a term 'cosmeceuticals' to describe the OTC skin care products that claims therapeutic benefit by addition of plant based active ingredient such as alpha-hydroxy acid, retinoic acid, ascorbic acid and CO-Q10. These active ingredients serves many purposes viz. increase in skin elasticity, delay in skin aging by reducing the wrinkles, protection against UV radiation by antioxidant property and to check degradation of collagen respectively.

The only factor to rely on was the knowledge of nature compiled in Ayurveda. The science of Ayurveda has used many herbs and flowers to create cosmetics to beautify and protect against external effects. The cosmetic is not included in the preview of the drug license. Herbal cosmetics are preparations containing phytochemicals from a variety of botanical sources, which influence the functions of the skin. wherein one or more herbal ingredients are used to provide cosmetic benefits defined only as "herbal cosmetics." It is a common opinion that chemical-based cosmetics are harmful to the skin and increased awareness among consumers of herbal products has caused the demand for natural products and natural extracts in cosmetic preparations.

The growing demand for natural products has created new avenues in the cosmeceutical market. The Law on Medicines and Cosmetics specifies that herbs and essential oils used in cosmetics should not be intended to penetrate beyond the superficial layers of the skin or have any therapeutic effect. Legal requirements and regulatory procedures for herbal cosmetics are the same as for other chemical ingredients used in cosmetics.

1.1 Definition of Cosmetics

A "cosmetic" is any substance used to clean, improve or change the complexion, skin, hair, nails or teeth. Cosmetics include beauty preparations (make-up, perfume, skin cream, nail polish) and grooming aids (soap, shampoo, shaving cream, deodorant).

"The cosmetics, according to the Drugs and Cosmetics Act is defined as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part thereof for

cleansing, beautifying, promoting attractiveness or altering the appearance. The cosmetic does not come under the preview of drug license".

1.2 Definition of Herbal Cosmetics

These are the cosmetics which are prepared using plant products having cosmetic actions. Recently the use of botanicals in cosmetics have increased mainly due to the mild action and non-toxic nature. In cosmetics, both natural and phyto-ingredients are used. Natural products Include oils, extracts, secretions etc. Phyto-ingredients include pure constituents obtained by various processes.

Types According To Site Of Application

- Skin
- Hair
- Dentifrice
- Nail
- Eyes

Modern age of Herbal cosmetic

Botanical extracts that support the health, texture and integrity of skin and hair are widely used in commercial cosmetic formulations. Plant materials, from which these extracts are prepared, have a long history of traditional "cosmeceutical" use, although the term itself is of recent origin.

In most cases, these cosmetic applications are adequately supported by efficacy and safety data documented in scientific literature. Among the more popular functional natural ingredients, several antioxidants used in cosmetics are scientifically proven to offer additional benefits in supporting skin texture, appearance and tone. While in traditional cultures, plant materials were used in crushed or dried and powdered form, their incorporation into existing cosmetic formulations presents unique challenges. Highly colored or gritty plant extracts need to be blended seamlessly into "milky" or clear creams, lotions and gels. This is where a judicious blend of art and science comes in practice.

Plant extracts are gaining popularity as ingredients in cosmetic formulations, primarily because of the poor image of animal-derived extracts acquired during the past few years. Historically, plants were the main source of cosmetic ingredients until methods for synthesizing substance with similar properties were discovered. Even though natural molecules derived from plant extract are currently the constituents of many commercial cosmetic products and offer a particularly exciting avenue for further research. In the modern age colour, odor, elegance and efficacy of herbal cosmetics are maintained in an effective manner with following benefits.

- Being natural, least harmful effect on the skin or otherbody part.
- Relatively more safe.
- More placebo effect to the consumers due to its use intraditions and culture.
- Flexibility in formulation.

- Population proves effects from ancient times.
- Easy availability.
- Economical.

1.3 BASIC SKIN CARE

Skin is the outermost covering of the body. It is the largest organ of the body. It constitutes the first line of defence, skin contains many cells and structures, it is decided into three main layers.

1. Epidermis: outermost layer varies in thickness in different regions of the body. Provide waterproof barriers and create our skin tone. Epidermis is divided into five layers. The stratum basale called keratinocytes is a cell that manufactures and stores the protein keratin.

Keratin is a fibrous protein that gives hair, nails, and skin their hardness and water resistance property. The stratum basale called keratinocytes is a cell that manufactures and stores the protein keratin. Keratin is a fibrous protein that gives hair, nails, and skin their hardness and water resistance property Marker cell, which is responsible for stimulating sensory nerves.

The Melanocyte produces the pigment melanin gives skin colour, protecting living cells of epidermis from ultraviolet radiation.

Stratum spinosum is spiny in appearance due to the cell processes that join the cells via structures called desmosomes.

Stratum lucidum is a smooth, translucent layer of the epidermis. Stratum corneum is the most superficial layer and it is exposed to the outside environment.

Keratin is a fibrous protein that gives hair, nails, and skin their hardness and water resistance property.

- 2. Dermis:** The dermis contains tough connective tissue hair follicles and sweat glands. Also contains collagen, a protein which is responsible for skin strength and elasticity
- 3. Hypodermis:** Hypodermis is made up of fat and connective tissue. Fat serves as insulation for body.

Functions of skin

- Protection
- Sensation
- Regulation of heat
- Control of evaporation
- Absorption
- Water resistant

1.4 The Requirement for the Basic Skin

- **Cleansing agent:** which remove the dust particles, dead cells and dirt from skin that chokes the pores on the skin. Some of the common cleansers include vegetable oils like coconut, sesame and palm oil.

- **Toners:** The toners help to tighten and toning the skin and keep it from being exposed to many of the toxins that are floating in the air or other environmental pollutants. witch hazel, geranium, sage, lemon, ivy burdock and essential oils are some of the herbs used as toners.
- **Moisturizing agent:** The moisturizing helps the skin to become soft and supple.
- **Eye Sculpt or Eye gel:** The skin around your eyes is more delicate than the rest of your face, so it's important to choose a product that's gentle, but still capable of addressing your main skin concerns – wrinkle prevention, puffiness or dark circles.
- **Serum:** Serums help nourish your skin, promoting healing and fighting the visible signs of aging. These go on before moisturizers for maximum absorption. Be sure to pick a serum that can deliver the powerful punch of ingredients you need for your skin type and skin care concerns.
- **Sunscreen:** The best care is preventive care. No matter your age, applying a product with SPF on a daily basis is the single most effective way to protect your skin from damage and the signs of aging.

CHAPTER2- METHODOLOGY

2.1 Formulation

The preparation of any herbal cosmetics basically follows a similar procedure as in the case of cosmetics. In preparation, suitable bioactive ingredients of their extracts are used along with requisite ingredients basically used for cosmetics. It requires selection of suitable emulsifying agents, and modified methodology to obtain desirable products of specified parameters.

The components in the formulation are from herbal Source and are very Safe and eco friendly. The ingredients of the formulation of the invention do not produce any adverse effect on the skin. The Aloe vera gel is useful for dryness, rose water which is Sedative, Sandalwood oil which is antiseptic, Vetiver oil which is calming and geranium oil which is calming. Olive oil has been used as it is very useful for skin. Beeswax, Stearic acid, glycerol monoStearate were used to provide cream base. Glycerine was used as Source of glycerol. Triethanolamine was used as emulsifier. Methyl and propyl paraben were used as fixative due to anti microbial properties.

Table I: Example of Formulation (Herbal Cream For Skin Care).

Components	Weight percentage
Beeswax	4.50
Stearic acid	3.50
Glycerol monostearate	7.00
Olive oil	25.00
Aloe vera gel	11.00
Rose water	20.00
Glycerine	14.00
Triethanolamine	1.50
Propylene glycol	6.00
Geranium oil	0.50
Sandalwood oil	0.50
Vetiver oil	0.50
Methyl Paraben	0.20
Propyl Paraben	0.20

Table II: Example of formulation (Himalaya Purifying neem face wash)

Sr.No.	Ingredients	Quantity taken for 10g gel
1	Tulsi(ocimum sanctum)	0.25 ml
2	Turmeric (Curcuma longa)	0.2 ml
3	Shahi jeera	0.15 ml
4	Lemon juice	0.15 ml
5	Nutmeg seed (Myristica fragrance)	0.7 ml
6	Xanthan Gum	0.05 g
7	Liquorice root (Glycyrrhiza glabra)	0.3 ml
8	Orange peel extract	0.25 ml
9	Honey	0.5 ml
10	Rose water	q.s.
11	Walnut	q.s.

Table III: Example of Formulation (Sunscreen cream)

S.No	Ingredients	F 1 (%)
1	Aloe gel	5.0
2	EEA	6.0
3	EEC	—
4	Olive oil	2.0
5	Rose oil	1.0
6	Rose water	3.0
7	Cetyl alcohol	2.0
8	Zinc oxide	12.0
9	Stearic acid	4.0
10	Glycerin	2.0
11	Vitamin E	1.0
12	Triethanolamine	1.0
13	HPMC	10.0
14	Propyl paraben	0.50
15	Distilled water	50.50

2.2. Top 10 Herbal Cosmetics Used In Daily Life

2.2.1. Aloe Vera

Aloe Vera has been an important herb sought after by the cosmetic industry as it is a great moisturizer; it softens the skin and gives it a youthful look. The herb also has great healing properties which can be used to treat rashes, cuts, bruises, sunburn and other skin problems.

2.2.2. Avocado

The avocado oil has a rare vitamin D, known as the sun-ray vitamin which can nourish the skin. The oil has an unusual property that penetrates through the dermis and epidermis effectively to rejuvenate the skin from within. For those who have been denied sunlight due to illness, this herb proves to be a boon.

2.2.3. Almond

The almond oil is one of the safest oils that can be used in cosmetic products, since it has the less acidic reaction than any other oil. The oil has been used for skin protection against the dry and hot climate of desert regions. Almonds have special properties to whiten the skin which is used in fairness creams.

2.2.4. Henna

Henna has been used for centuries to dye hair and skin on hands and feet, especially of women. Henna is the safest dye, which besides enhancing the appearance, also has curative properties to give hair a shiny, healthy look. The tattoos of henna do not have any side effects on skin either.

2.2.5. Sandalwood

Sandalwood is used in cosmetic products to freshen and revitalize dull skin. Sandalwood paste is known not only to have curative powers to heal skin problems, but also a glow to the skin which is unmatched by any other product. Sandalwood is also used for face packs and scrubs.

2.2.6. Saffron

Saffron was considered to be one of the most beneficial herbs for skin ailments and cleansing of skin by ancient Indian physician Charaka. The herb is used in cosmetics in production of fairness creams, cleansers and anti-blemish lotions.

2.2.7. Elder Tree

Every part of the plant is utilized in production of cosmetic products like soothing lotion, beautifying cream, healing ointments and skin softening balms. The herb with a luring scent has the amazing property of healing sunburn; furthermore it removes the ill effects like blemishes, spots and freckles caused due to exposure to sun.

2.2.8. Neem

The antifungal, antibacterial and detoxifying property of Neem has seen its extensive use in production of lotions, creams, toothpastes, soaps, shampoos and many more.

Many medicinal dermatology products prescribed for itchy skin, eczema and psoriasis contain Neem. It is also used in anti-ageing products.

2.2.9. Lavender

The exotic scent of lavender has seen its use in production of perfumes, oils, talcum powders, bath gels, soaps, shampoos and many more cosmetic products. Besides the scent, the herb has excellent antiseptic and antifungal properties in addition to providing relief from acne and psoriasis.

2.2.10. Amla

Amla or *Emblica Officinalis* is sought after by the cosmetic industry for its high content of vitamin C which is an excellent product for skin care. The herb also gives out oil which is an excellent remedy for various hair and scalp problems.

2.3. Use of Herbal Cosmetics

Aloe Vera Benefits

- It keeps skin looking smooth and supple.
- Delays visible signs of ageing like fine.
- Healing cracked heels.
- Moisturizes the skin

Sandalwood Benefits

- Naturally clear skin complexion and add a healthy glow to it.
- Tightens the drooping skin tissues,
- Provide youthful appearance.
- Effectively in fighting the bacteria and fungi

Turmeric Benefits

- Help lighten stretch marks.
- Effectively reducing fine lines and wrinkles.
- Quick relief of accidentally burn skin.
- Antiseptic, anti-inflammatory and anti-bacterial properties.

Rose Benefits

- Rose water is a natural toner for skin.
- Prevent dark circles below eyes.
- It helps to lock moisture into the skin,
- keeping skin feeling smooth

2.4. HERBS USED IN COSMETICS

2.4.1 Skin care

Coconut oil: It's produced by crushing copra, the dried kernel, which contains about 60-65% of the oil. Coconut oil contains about 60-65% of the oil. Coconut oil contains a high percent of glycerides of lower acids. Coconut oil springs from the fruit or seed of the coconut tree *Cocos nucifera* belonging to family *Arecaceae*. The melting point of coconut oil is 24 to 25 degree celsius and thus can be used easily in liquid or solid forms and is often used in cooking. Coconut oil is great as a skin moisturizer and skin softener.

Sunflower oil: It is the non-volatile oil extracted from sunflower seeds obtained from *Helianthus Annuus*, family Asteraceae. Sunflower contains lecithin, tocopherols, carotenoids and waxes. It has smoothing properties and is considered non-comedogenic. A simple yet cost-effective oil, well tried and tested for generations in a very wide variety of emulsions formulated for face and body Products.

Aloe vera: Aloe vera is a herbal plant species belonging to the Liliaceae family that is found only in cultivation, having no naturally occurring populations, although closely related aloes do have presence in northern Africa. Aloe vera contains amino acids like leucine, isoleucine, saponin glycosides that provide cleansing action, vitamins A, C, E, B, choline, B12 and folic acid and provide antioxidant activity.

2.4.2 Anti-aging

Carrot: it is obtained from *Daucuscarota* belonging to Apiaceae family. it's a valuable herb since ages because of its richness in vitamin A alongside other essential vitamins. Carrot seed oil is used as an anti-aging, revitalizing and rejuvenating agent. From β -carotene the carrot gets its characteristic bright orange colour, and lesser amounts of α -carotene and γ -carotene. α and β -carotenes are partly metabolized into vitamin A in humans.

Ginkgo: *Ginkgo biloba* belongs to family Ginkgoaceae, which grows to a huge size. Ginkgo used for thousands of years to treat poor blood circulation, hypertension, poor memory, and depression, particularly among the elderly; male impotence. It is also used as antioxidant and anti-inflammatory agent. *Ginkgo biloba* belongs to the family Ginkgoaceae, which grows to a huge size. The *Ginkgo biloba* extract EGb 761, prepared from the tree's leaves containing flavone glycosides, has exhibited the capacity to reduce the number of ultraviolet B (UVB)-induced sunburn cells in mice.

2.4.3 Skin protection

Turmeric: turmeric is topical perennial herb *Curcuma Longa* of the family Zingiberaceae. Turmeric provides a great variety of pharmacological activities due to curcumin are antibacterial, antiparasitic, anti-HIV. It is also effective for prevention or treatment of psoriasis and other skin conditions such as acne, wounds, burns, eczema, sun damage to the skin and premature aging, since it inhibits the activity of phosphorylase kinase. Turmeric rhizome powder has anti-inflammatory and antioxidant properties, hence it is used for preparation of facial creams and ointments.

Green tea: Green tea is made by leaves of *Camelliasinensis* belonging to family Theaceae. Tea leaf extract absorbs ultraviolet radiation and protects the skin against its harmful effects. It is a photoprotective component use in daily care cosmetics. Polyphenolic compounds present in tea have strong antioxidant

activity. Tea extract is used in sunscreen cosmetic for protection against UV radiation.

2.4.4 Antioxidants

Tamarind: Tamarind or *Tamarindusindica* belonging to family Fabaceae, consists of amino acids, fatty acids and minerals of tamarind plant parts. Tamarind fruit is an excellent source of vitamin B and contains minerals, exhibit high antioxidant capacity that appear to be related to a high phenolic content, and thus, are often a crucial food source.

Vitamin C: Vitamin C is necessary for the hydroxylation of Proline, Procollagen, and Lysine. Vitamin C improves the changes caused by photo damage. Vitamin C has been used to stimulate collagen repair, thus removing some of the effects of photo-aging on skin.

Vitamin E: (Alpha-tocopherol) is the major lipophilic antioxidant in plasma membranes and tissues. The term vitamin E collectively refers to 30 naturally occurring molecules (4 tocopherols and 4 tocotrienols), all exhibit vitamin E activity. Its major role is generally considered to be the arrest of chain propagation and lipid peroxidation by scavenging lipid peroxy radicals, hence protecting the cell membrane from destruction.

2.4.5 Dandruff treatment

Henna: Henna comes from the plant *Lawsoniainermis* family Lythraceae, which contain a dye molecule called Lawsone, which when processed produces Henna powder. Besides lawsone other constituents present are gallic acid, glucose, mannitol, fats, resin (2%), mucilage and traces of an alkaloid. Leaves yield hennotannic acid. It is highly praised both for its high vitamin C content and for the precious oil, which is extracted from its seeds and pulp and used as a treatment for hair and scalp problems. It is used in eye syndromes, hair loss, and children ailments etc.

Shikakai: *Acacia concinna* Linn. (Leguminosae) is a medicinal plant that grows in tropical rainforests of southern Asia. The fruits of this plant are used for washing hair, for improving hair growth, as an expectorant, emetic, and purgative. The powder of *Acacia Concinna* Linn shows the presence of saponins, alkaloid, sugar, tannin, flavonoids, and anthraquinone glycosides.

2.4.6 Essential oils

Rose oil: Rose oil may be used effectively to reduce anxiety, stress, depression, and pain. increase libido, protect against harmful bacteria and fungi. rose oil! Benefits include helping skin heal from scars and moisturizing it, fighting inflammation, relieving stress and promoting circulation.

Olive oil: This oil is a fixed oil extracted from the fruits of *olea europaea*, family oleaceae. The major

constituents are triolein, tripalmitin, trilinolein, tristearate, monosterate, triarachidin, squalene, β -sitosterol and tocopherol. It is used as skin and hair conditioner in cosmetics like lotions, shampoos.

2.4.7. Herbs with Depigmentation Effects

Papaya: Some constituents of leaf of *Carica papaya* are myrosin, alkaloids, rutin, resin, tannins, carpaine, dehydrocarpaine and pseudocarpaine enzymes, ascorbic acid and saponins. Aliphatic and aromatic hydrocarbons contribute to aroma. On the other hand, the following carotenoids along with vitamin C increases on ripening as lycopene, β -cryptoxanthin, β -carotene. Carotenoids helps in depigmentation of the skin, generally used in the form of face wash, and also help to remove tan.

Cucumber: Its extract is rich in vitamins, especially vitamin C and A, which have some cosmetic benefits for the skin, hence it is used to make sheet masks and gel. Cucumber has an excellent potential for cooling, healing an irritated skin, whether caused by sun or due to cutaneous. Cucumber extract is often used for skin problems, wrinkles, sunburn and as an antioxidant. Cucumber extract is a superfood for skin. The juice is composed largely of proteins, lipids, Vitamin C and a variety of minerals and possesses moisturizing and emollient properties. It also has astringent effects and can soothe and relieve puffy skin.

2.4.8 Astringents

Witch Hazel (*Hamamelis Virginiana*)

Witch hazel is an excellent herb with high concentration of tannins, and is a great herbal astringent. The leaves and bark are highly beneficial. Witch hazel is used to protect the skin and the herb can be used to prevent future blemishes as well.

White Oak (*Quercus Alba*)

As another potent astringent, the white oak is a giant tree native to North America. The powerful astringent properties lie in the bark. It is also a high source of tannins and iron. The white oak is used to create skincare products as well.

2.5.1 Marketed preparation

Table IV: Marketed preparation for Herbal Cosmetics.

Product	Brand Name	Company
Face Wash	Deep cleansing apricot face wash	Himalaya herbal
Cream	Herbal massage cream	Just Herbs
Anti-aging Cream	Anti-aging cream	Dabur
Sunscreen	Lotus herbal safe sun	Lotus
Skin whitening cream	Lotus herbals whiteglow skin brightening cream	Lotus
Lotion	Herbal Body lotion	Khadi Mauri
Face Pack	Herbal Face Pack	Zofla

Face wash: Herbal face wash is used to treat acne and pimples. Containing rich plant-based ingredients like neem, herbal face wash removes excess oil without removing nutrients from the skin. They may have different mechanism like,

Black Tea and Green Tea

Black teas are typically higher in tannins than other tea types and are thus more astringent. Green teas and other tea types can also be astringent. The physical sensation of astringency is caused when tannins shrink mucous membranes in the mouth and throat.

Agrimony

Agrimony is applied directly to the skin as a mild drying agent (astringent) and for mild skin redness and swelling (inflammation). Some chemicals taken from agrimony are used to fight viruses.

Rose Water

Rose water, which is rich in tannins, can have a tightening effect on skin. It's also not as drying for the skin as other alcohol-based astringents.

2.5 COSMETIC PREPARATION

The physical states of cosmetics preparation are divided into following three categories: Solids: Face powders, Talcum powders, Face packs, Masks, Compact powders, Cake make-up, etc. Semi solids: Creams, Ointments, Liniments, Wax base creams, pastes, etc. Liquids: Lotions, Moisturizers, Cleansing milk, Mouth washes, Deodorants, Liniments, Sprays, etc. The preparation of any herbal cosmetics basically follows a similar procedure as in the case of cosmetics.

In preparation, suitable bioactive ingredients of their extracts are used along with requisite ingredients basically used for cosmetics. It requires selection of suitable emulsifying agents, and modified methodology to obtain desirable products of specified parameters. The herbal cosmetics formulation is a sophisticated and sensitive technological profile because it retains the bioactivity of the botanical during excessive processing and ascertains their availability after application on skin. It is desirable that manufacturers should ensure the quality of products through systematic testing at their level.

- Control sebum secretion.
- Antibiotics which inhibits *Propionibacterium acne* and *Staphylococcus epidermidis*, the main causative organism of acne.

- Keratolytic which removes the keratin layer and prevents the trapping of sebum under the skin.
- Anti-inflammatory which prevents the worsening of condition due to inflammation or redness etc.

Evaluation of Face wash

Physical evaluation

Physical parameters, such as color, appearance and consistency, are examined for people with visual impairment.

Washability

The formulation has been used on the skin and then easily verified after washing with water.

PH

Using a digital pH meter calibrated at constant temperature, the pH of 1% of the hydro transpiration is calculated.

Spreadability

Spreadability indicate the limit of the area in which the gel spreads easily on the skin or the affected part. The biological availability of the functionality to create a gel also depends on the value of the extension. By slides spelabiliti two seconds, put the second slide to slide out of jail, it shows below a certain weight. Reduce the time needed to separate the two slides, a good spreadability. Two standard sizes of standard glass were taken. Herbal gel was designed in one of the slides. The other was placed on top of the slide gel, like a gel sandwich between the two slides on the 6-centimeter slide on the slide. The weight of 100 gms was placed in the upper slide so that the gel between the two slides were pressed evenly with a thin layer. The weight was eliminated and eliminated much more than the prisons that adhere to the slides. In the position, two slides are placed without interruption, thus remaining in such a way that, in this way, the weight of the body built in the upper slide is like a free dream. A weight of 20 gm was built in the upper slide. The time needed for the previous slide is to go to a distance of 6 cm 7, separated from the next slide by the weight of the weight. This experiment was performed three times in the average time taken to gel and commercialize gels and calculate three times.

Spreadability is calculated by using the following formula, $S=M \times L / T$

Herbal Cream: This herbal nourishing face cream is specifically formulated for extra-dry skin that lacks glow and suppleness. cream contains Ashwagandha, Manjishtha, Sandalwood and other precious Ayurvedic herbs to regenerate and nourish dull, dry, and lifeless skin. It fortifies, tones and restores dynamism to the skin.

Evaluation of Creams

Anti Cellulitis Activity

The activity is been checked by the agar well diffusion method. The nutrient agar plate is been made, then the plate is been autoclave for sterilization for 30 min then

the plate is removed from the autoclave. The plate is then taken to under laminar air flow, there the bacteria is incorporated in the plates and put it for solidified.

pH

The pH of the formulation was measured using pH meter. The instrument was calibrated using buffer solution of pH 4 and pH 7 by dipping the electrode in it.

Acid value

Take 10 gram of substance dissolved in accurately weighed 50 ml mixture of equal volume of alcohol and solvent ether, the flask is connected to reflux condenser and slowly heated, to this 1 ml of phenolphthalein add and titrated with 0.1 N Naoh, until faintly pink colour appears after shaking for 30 seconds. **Acid value = n * 5.61 / w**

Saponification Value

Introduce about 2 gm of substance refluxed with 25 ml of 0.5 N alcoholic KOH for 30 minutes, to this 1 ml of phenolphthalein added and titrated immediately, with 0.5 N HCL.

Saponification value = (b - a) * 28.05 / w

Spreadability

Spreadability of formulations will be determined by an apparatus, which consist of a wooden block, with a fixed glass slide and movable glass slide with one end tied to weight pan rolled on the pulley, which was in horizontal level with fixed slide. **Spreadability (S) = M * L / T**

Viscosity

The viscosity was measured to determine rheological properties of formulation. The viscosity of cream was measured by using Brookfield Rheometer viscometer with spindle no.96 at 10 RPM and 30±2 °C.

N-vitro Permeation Study

The drug content of drug loaded cream was measured using UV visible spectroscopic method. The aliquots of cream formulation were prepared using Phosphate buffer. The samples were measured at $\lambda_{max} = 271$ nm using UV-VIS spectroscopic method.

Herbal Sunscreen: Herbal Sunscreen (also known as Herbal sunblock, Herbal. suntan lotion) is a lotion, spray or other topical product that. helps protect the skin from the sun's ultraviolet (UV) radiation, and which reduces sunburn and other skin. damage, with the goal of lowering the risk of skin cancer.

Evaluation of Sunscreen Cream

Physicochemical studies

The physicochemical parameters considered for the study include colour, pH, volatile and nonvolatile content, ash value, layer thickness and rheological studies such as viscosity.

Safety evaluation by Mutagenicity assay

The standard plate incorporation test for Mutagenicity was carried out as per Maron and Ames (1983). The strain used for the study was Salmonella typhimurium strain TA 100 without the S9 mix (Onodera et al. 1998). Positive control used for TA 100 was sodium azide (CAS Number 26628- 22–8): 5 µg/plate. Sterile distilled water was used as negative control. Fresh solutions of the reference mutagen were prepared immediately before the beginning of each experiment. The samples were dissolved in dimethyl sulfoxide (DMSO) and preincubated with the test strain in phosphate buffer at 37°C for 20 minutes. After addition of the test samples, the plates were incubated at 37°C for 48 h.

Irritation test

The skin irritation test was performed on albino rats of both sexes weighing about 150–200 g. The animals were maintained on standard animal feed and free access to water. Hair was shaved from the back of rats and an area of 2 cm² on both sides. One group served as control (5 % SLS in distilled water), the second group for standard (Marketed Sunscreen), three more groups served as test. Lotions at 5 ml were applied twice a day for 3 days and the site was observed for any sensitivity, edema and erythema.

Efficacy analysis

Efficacy of herbal sunscreens was determined by In-vitro method using UV Visible spectrophotometer. 0.10 % solution (w/v) each of the three formulated sunscreen lotions in n-propyl alcohol was prepared by dissolving 0.050 g of the sunscreen lotion in 50.0 ml of n-propyl alcohol. 0.10 % solution of the two selected commercial sunscreen lotions (SPF 20 and 55) in n-propyl alcohol was also prepared.

Herbal Face Pack: A face pack is a thick substance which you spread on your face, allow to dry for a short time, and then remove, in order to clean your skin thoroughly. A herbal face pack consists of Multanimitti, Manjistha, Haridra, Rakta Chndan and other herbal medicines.

Face packs are used to moisturise, cleanse, tone and rejuvenate your skin. Also face masks are designed for each skin and age type. Another reason of applying a face mask is to help relax. And what better way to pamper and treat your skin to goodness than applying a rejuvenating face pack.

Evaluation of Herbal Face Pack

Organoleptic Properties

The nature, color, odor, taste and texture of the dried powder of combined form were tested manually.

General powder Characteristics

The particle size of the dried powder of combined form was tested by microscopy method. The flow property of the dried powder of combined form was evaluated by

performing Angle of Repose by funnel method, bulk density and tapped density by Tapping Method.

Shinoda Test

To the extract add few magnesium turnings and concentrated hydrochloric acid. The appearance of red colour indicates the presence of flavonoids.

2.6 EVALUATION

The parameters tested include organoleptic characteristics, pH, viscosity, refrigeration and stability towards light. The main disadvantage of herbal ingredient is the attack of microbes rendering them unfit for human use. So, care must be taken to prevent the bacterial attack. The evaluation of herbal cosmetics is very important and there is no hard and fast code of practice, which can be laid down for all products. The evaluations of Herbal cosmetics are performed to checked the efficiency, storage, processing operation and stability requirements. The evaluation of herbal cosmetics is actually the same as that for the other common cosmetics products which are available in market.

The ingredients utilised in cosmetics should be of the high quality so as to minimize the irritancy and sensitivity reaction. The physical parameters of herbal cosmetics include the colour, odour, form of physical state, pH, and net content. The other evaluations of herbal cosmetics are sensitivity test, irritation test and grittiness. The irritancy and sensitivity test can be performed by either diagnostic testing or by the prophetic or predictive testing. The diagnostic testing is determined by different patch tests, where one can establish the cause of dermatitis produced by cosmetics. In predictive testing, which involves the testing for primary irritants, testing for eye irritation (e.g.: rabbit eye test), testing for animal skin irritation and testing on humans for irritancy. The test will help to detect the irritant and sensitizing potential of new cosmetic ingredients.

The evaluations of facial cosmetics are grouped into physical parameters, esthetic and pressure testing. Physical parameters include colour, adhesiveness, pH, net content, odour, size and shape of the particle and finally the moisture content. In esthetical, the parameters evaluated are shape control, dispersion of colour, bloom testing, adhesiveness, spreadability, covering power and finally handling test. The pressure testing is evaluated for compacts to check the presence of air pockets.

The microbial test, toxicity test and stability studies were also performed for evaluating the cosmetics products. The traditional documented applications of herbs in cosmetics are available along with some modern trials which have established the utility of these materials in cosmetic preparation Analytical methods are used to support the commercial development and application of new ingredients to ensure that specifications are met to

confirm the quality of manufactured products and to satisfy that the process are operating correctly.

The analytical methods are regularly employed by enforcement and regulatory authorities to ensure that the products confirm to legal standards and are safe and accurately described. The analytical chemist continues to have a major role in selecting the most appropriate method, managing the data, interpreting the results. The analytical techniques are basically classified into classical method and instrumental method. The skin evaluation can be performed by super facial sampling of the skin with image analysis of the cells. The free radical scavenger properties in cosmetics which can counteract the effect of pollution and UV light on skin can be evaluated by fluorescence II system. The free radical scavenging properties evaluated by inhibition of UVB induced skin erythema by skin reflectance spectrophotometry.

2.7 Advantages of Herbal Medicine

➤ **Compatible with all skin types**

Natural cosmetics are suitable for all skin types. No matter if you are dark or fair, you will find natural cosmetics like foundation, eye shadow, and lipstick which are appropriate irrespective of your skin tone. Women with oily or sensitive skin can also use them and never have to worry about degrading their skin condition. Coal tar-derived colors are used extensively in cosmetics, Coal tar is recognized as a human carcinogen and the main concern with individual coal tar a colour (whether produced from coal tar or synthetically) is they can cause cancer. But natural colours that are obtained from herbs are safer.

➤ **Wide selection to choose from**

Natural cosmetics may still be a new type in the beauty industry but they already offer a variety of beauty products for all makeup crazy people out there to choose from. One will find a variety of foundation, eye shadow, lipstick, blush, mascara, concealer and many more which are all naturally formulated. Furthermore, one will find locally made natural cosmetics or those made by famous designers worldwide. There exist a large variety of herbal extracts, to name a few *Andrographis Paniculata* (Kalmegh), *Asparagus Racemosus* (Shatavari), *Boswellia Serrata* (SalaiGuggal), *Asphalt* (Shilajit) etc.

➤ **Fits your budget**

Natural cosmetics are not that expensive. They are offered at discounted prices and are sold for a cheap price during sales. An estimate of WHO demonstrates about 80% of world population depends on natural products for their health care, because of side effects inflicted and rising cost of modern medicine. WHO currently recommends and encourages traditional herbal cures innatural health care programs as these drugs are easily available at low cost.

➤ **Not tested on animals**

Some cosmetics are initially tested on animals to ensure that they are safe and effective to use for humans. However, natural cosmetics need not be tested on animals. These natural formulations are tested by experts in laboratories using state of the art equipment with no animals involved.

➤ **No side effects**

The synthetic beauty products can irritate your skin, and cause pimples. They might block your pores and make your skin dry or oily. With natural cosmetics, one need not worry about these. The natural ingredients used assure no side effects; one can apply them anytime, anywhere. For example herbal cosmetics are free from parabens that are the most widely used preservative in cosmetics and can penetrate the skin.

2.8 Limitations of Herbal Medicines

Like any other branch of science and technology, present scenario of herbal medicine has its own limitations arising out of its own technical constituents. The prominent limitations of herbal medicines can be summarized as follow.

➤ **Inappropriate for many conditions**

Modern medicine treats sudden and serious illnesses and accidents much more effectively than herbal or alternative treatments. An herbalist would not be able to treat serious trauma, such as a broken leg, nor would he be able to heal an appendicitis or a heart attack as effectively as a conventional doctor using modern diagnostic tests, surgery, and drugs.

➤ **Lack of dosage instructions**

Another disadvantage of herbal medicine is the very real risks of doing yourself harm through self-dosing with herbs. While you can argue that the same thing can happen with medications, such as accidentally overdosing on cold remedies, many herbs do not come with instructions or package inserts. There's a very real risk of overdose.

➤ **Poison risk associated with wild herbs**

Harvesting herbs in the wild is risky, if not foolhardy, yet some people try to identify and pick wild herbs. They run a very real risk of poisoning themselves if they don't correctly identify the herb, or if they use the wrong part of the plant.

➤ **Medication interactions**

Herbal treatments can interact with medications. Nearly all herbs come with some warning, and many, like the herbs used for anxiety such as Valerian and St. John's Wort, can interact with prescription medication like antidepressants. It's important to discuss your medications and herbal supplements with your doctor to avoid dangerous interactions.

➤ Lack of regulation

Because herbal products are not tightly regulated, consumers also run the risk of buying inferior quality herbs. The quality of herbal products may vary among batches, brands or manufacturers. This can make it much more difficult to prescribe the proper dose of an herb.

➤ Herbal medicines are often self administered

As a result, there is no dosage or warnings specified. When Herbal medicines are consumed with pharmaceutical drugs, the two can interact with each other resulting in injuries to health.

2.9 Future Scope and Challenges

As discussed previously, India is the birthplace of a renewed system of indigenous medicine such as Siddha, Ayurveda and Unani and enriched with flora and therefore plants have been used since ancient times for the simple remedies that became popular. The physician of traditional medicine in different parts of India and local believer always tried to utilize the local plants as cosmetics for the maintenance of skin appearance, texture as well as beauty.

Following criteria are used for selection of herbal cosmetics.

- 80% of the world population still depend on natural products.
- It is in line with nature with no hazardous reaction.
- Many of these having some scientific as well as traditional evidences that are based on experimental data on animals and ethnobotanical survey.

2.10 Formulation challenges

- Currently, Poor scientific justifications are available.
- More susceptible to microbial and inorganic contamination.
- Immiscibility of extract with other ingredients.
- Appropriate values of basic pharmaceutically considered parameters like PH values, acid values and complexation of natural phyto-ingredients may change the competency of formulation.
- A single herbal medicine or medicinal plant may contain more than hundreds of natural constituents, and a mixed herbal medicinal product may contain several times the number of one. In such an analysis of single active constituents may practically be impossible especially where an herbal product is a mixture of two or more herbs.
- Poor organoleptic properties.
- The quality of source or raw materials is dependent not only on intrinsic (genetic) factors but also on extrinsic factors such as environmental conditions, good agricultural, and good collection practices for medicinal plants, including plant selection and cultivation.
- There is a lack of proper knowledge regarding the importance of taxonomic botany and documentation by most manufacturers of herbal medicines, and this poses peculiar challenges during identification and

collection of medicinal plants used for herbal remedies.

- Adverse effects arising from consumption of herbal medicines are due to several factors among which include the use of the wrong species of plant, adulteration of herbal products, undeclared medicines, contamination, overdose, misuse of herbal medicines by either health-care providers or consumers, and use of herbal medicines with other medicines.
- Identifying the substantial identity of herbs.
- Multi phytoconstituent evaluation is hard- hitting.

CONCLUSION

The use of herbal cosmetics has increased by too many folds in the personal care system and there is a great demand for herbal cosmetics. The use of bioactive ingredients in cosmetics affects the biological functions of the skin and provides the necessary nutrients for healthy skin or hair. In general, plants supply different vitamins, antioxidants, various oils, essential oils, hydrocolloids, proteins, terpenoids and other bioactive molecules. There is ample room to launch numerous herbal cosmetics with inappropriate bioactive ingredients with fatty oil, essential oils, proteins and appropriate additives. It is mandatory to carry out safety tests appropriate to the existing and well-documented standards together with the composition of the ingredients.

Herbal cosmetics are prepared, using permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to treat different skin ailments and for the beautification. The chemical formulation of all these cosmetic products includes addition of various natural additives like waxes, oils, natural colour, natural fragrances and parts of plants like leaves, etc. The Cosmeceuticals are agents that lie somewhere between pure cosmetics (lipstick and rouge) and pure drug (antibiotics, corticosteroids) methods. The cosmetic products are the best option to reduce skin problems such as hyper pigmentation, skin wrinkling, skin aging and rough skin texture etc. The demand of herbal cosmetic is rapidly expanding.

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