

**POLYHERBAL COSMETIC CREAM****Nitesh Kumar Singh\* and Prashant Kumar**

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**ABSTRACT**

Utilization of home grown subordinates was known to old human developments. These were used as basic nourishments, prescriptions or as even beautifying agents. Blossom, leaf, organic product, root, bark, internal piece of stem, wood, beans, rhizome, endosperm, bulb, seed or even entire plants are used to deliver bioactive fixings. Requests of natural items just as beauty care products are expanding step by step because of the colossal wellbeing perils of engineered fixings that again add to ecological debasement. Aside from beautification restorative bioactive fixings go about as cancer prevention agent, mitigating, disinfectant, antibacterial operators. These bioactive fixings incorporate nutrients, cancer prevention agents, oils, colors, tannins,

alkaloids, starches, proteins, terpenoids and some more. Most significant aspect of home grown makeup is that they are without any symptoms.

**KEYWORDS:** Aloevera, Walnut oil, Herbal cosmetics, Polyherbal cream.

**INTRODUCTION**

The word 'cosmetic' emerges from a Greek word 'kosmeticos' which intends to adorn. Since that time any material utilized for beautification or enhancement of look is known as cosmetic.<sup>[1]</sup> WHO (World Health Organization) 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 total population depends on medicinal plants for their essential health care. Entire world including the created nation perceived the significance of conventional drug and has treatment methodologies, rules and standard for ethnomedicine. Although different kinds of cream is considered for wound healing however these are still has all the earmarks of being constrained in pace of

tissue recovery. Henceforth after a profundity audit viewing pathogenesis just as various conventional and elective treatment for wound curing, we have taken up the task to create and plan home grown cream which will be compelling and has better pace of tissue recovery. The home grown cream that is intended to be planned for wound recuperating will be oil-in-water (O/W) emulsion type which will be fewer greasy, less oily and less clingy in nature with the goal that patient compliance is copious and will be valuable for all type of persons in our civilization.<sup>[2]</sup>

Cosmetics are different from cosmeceutical because they are for just external appearance benefits through the action on uppermost layer of skin while cosmeceuticals contains additional health related benefit giving ingredients which act on innermost layer of skin. Cosmeceuticals is the word used to express cosmetic contain ingredients that are bioactive, applying impacts on individual. It is a mix of pharmaceutical and cosmetic which has showed up just in nineties as a part of OTC products. Thus herbal cosmeceuticals are the preparations consisting herbal ingredients or phytochemicals to serve as cosmetics for the care of body and its parts and influence biological functions of skin and provide nutrient necessary for the healthy skin or hair. The herbal cosmetics industry is “driving growth in the beauty business” in India and is expected to grow at a rate of seven percent as more people shun chemical products in favour of organic ones. As compared with synthetic cosmetic products, herbal products are mild, biodegradable and have low poisonous.

## CLASSIFICATION OF COSMETICS

There is a broad scope of cosmeceutical preparation. They are classified on the basis of application on body parts which include:

### SKIN

- Powder
- Lip balm
- Cream
- Lotion
- Sunscreen and sunburn preparation
- Face pack
- Deodorant and antiperspirant
- Bath preparation

**HAIR**

- Shampoo
- Hair oil/Hair tonic
- Hair colourants

**MOUTH**

- Dentifrices

**SHAVING**

- Shaving preparation
- After shave preparation

**LIP**

- Lipstick
- Lipgloss
- Lip liner

**EYE**

- Eye shadow
- Eye brow pencil
- Eye liner
- Mascara

**NAIL**

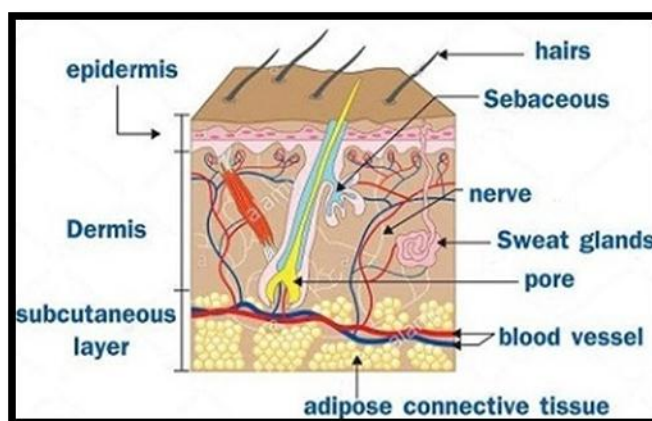
- Nail lacquer
- Nail lacquer remover.<sup>[3]</sup>

**PREPARATION OF CREAM**

Oil in water (O/W) emulsion-based cream (semisolid formulation) is formulated. The emulsifier (stearic acid) and other oil soluble segments (cetyl alcohol, cinnamon oil, walnut oil) are dissolved in the oil segment (Part A) and warmed to 75° C. This additives and other water soluble segments (sodium benzoate, aloe vera, marigold flower petals powder and honey) are dissolved in the water segment (Part B) and warmed to 75° C. After heating, the water segment is added in portions to the oil segment with consistent blending until cooling of emulsifier occur.<sup>[4]</sup>

## STRUCTURE OF SKIN

The skin, also known as the cutaneous membrane (ku<sup>-</sup>-TA<sup>-</sup> -ne<sup>-</sup>-us), covers the outer surface of body and is the biggest organ of body in weight. In grown-ups, the skin covers part of around 2 sq. m. (22 sq. ft.) and weighs 4.5–5 kg (10–11 lb), about 7% of whole body weight. It goes in thickness from 0.5 mm on eyelids to 4.0 mm on the heels. Over a large portion of the body it is 1–2 mm thick.<sup>[5]</sup> pH of the skin fluctuates from 4 to 5.6 and refers to the pH of film of water and other dissolvable materials present on the outside of the skin. Sweat and fatty acids emitted from sebum impact pH of the skin surface. It is recommended that causticity of the skin helps in constraining or forestalling the development of pathogens and other organisms. The skin consists of three functional layers- epidermis, dermis and hypodermis.<sup>[6]</sup>



**Skin structure**

## EPIDERMIS

It is the peripheral layer. In many pieces of the body epidermis is about 0.1mm thick however on the bottoms of feet and palms of the hands it very well may be 1mm fat or more. The chief skin cell that makes up epidermis is known as keratinocyte, accordingly named on the grounds that it delivers an intense protein called keratin. Keratin is additionally the protein from which nails and hair are produced. It gives skin a lot of its protection from physical put on and tear and makes skin water-resistant. The fundamental kind of cells which make up epidermis are keratinocytes, Merkel cells with Langerhans cells and melanocytes also present. The epidermis is separated into five layers:

Stratum corneum

Stratum lucidum

Stratum granulosum

Stratum spinosum

Stratum basale

### **Stratum corneum**

The cells in stratum corneum layer are called as corneocytes. The cells have leveled out and are made basically out of keratin protein which gives power to the layer yet additionally permits the assimilation of water. The structure of stratum corneum layer looks easy, however this layer is liable for keeping up the honesty and hydration of the skin- a significant capacity. There are really difficult processes that are grinding away in the stratum corneum and negligible interruptions of any of these procedures can cause an assortment of skin issues.

### **Stratum lucidum**

The stratum lucidum layer is just present in tough skin where it helps decrease rubbing and shear powers between the stratum corneum and stratum granulosum.

### **Stratum granulosum**

The cells in stratum granulosum, or granular layer, have vanished their cores and are portrayed by dim bunches of cytoplasmic substance. There is a great contract of action right now keratin proteins and waterproofing lipids are being created and ordered.

### **Stratum spinosum**

Cells that shift into spinosum layer alter from being columnar to polygonal. Right now cells begin to produce keratin.

### **Stratum basale**

The stratum basale is the base layer of keratinocytes in epidermis and is answerable for constantly recharging epidermal cells. This layer contains only one line of undifferentiated columnar branch cells that separated habitually. Half of the cells divide and move to the following layer to start the development method. The other half remain in basal layer and partition again and again to reload the basal layer.

## **DERMIS**

Dermis lies instantly underneath epidermis and is around 4 times thicker. It contains various specific supporting tissues just as sweat glands, hair roots, nerves and blood vessels. The

primary constituents of the dermis are proteinous connective tissue fibres which are associated with the glycosaminoglycans or mucopolysaccharides.

The dermis is basically divided into two zones: A shallow region nearby the epidermis, known as papillary region, and a profound thicker region known as the reticular region.

### **Papillary region**

Papillary region is the made out of free areolar connective tissue. It is named for its fingerlike projections known as papillae that expand near epidermis. The papillae give dermis with a “bumpy” surface that intertwine with epidermis, strengthening the relationship between two layers of skin.

In fingers, palms, soles, and toes, an impact of the papillae anticipating into epidermis forms structure in the skin’s surface. These are called rubbing ridges, since they help the foot or hand to grasp by expanding friction.

### **Reticular region**

The reticular region lies somewhere down in papillary region and is generally a lot thicker. It is made out of thick unequal connective tissue, and get its name from thick grouping of collagenous, flexible, and reticular fibres that intertwine all through it. These protein fibres provide dermis its properties of power, extensibility and flexibility. Additionally situated inside reticular region are foundations of the hair, sweat glands, sebaceous glands, nails, receptors and blood vessels.

### **HYPODERMIS**

Underneath the dermis lies a layer of fat, the subcutaneous fat. The profundity of this layer varies starting with one individual then onto the next. It contains bigger veins and nerves and is comprised of bunches of fat-filled cells known as adipose cells. The subcutaneous fat lies on the bones and muscles, to which an entire skin organized is joined with connective tissues. The connection calm free, so the skin may move genuinely free. The fundamental cell types are macrophages, adipocytes and fibroblasts (hypodermis consists half of muscle to fat ratio). Fat fills in as cushioning and protection for the body.<sup>[7]</sup>

### **FUNCTIONS OF SKIN**

**Absorption:** few medications that are absorbed by skin might be administered by applying ointments, adhesive patches etc. to the skin.

**Protection:** against pathogens, Langerhans cells in skin are component of the immune system.

**Storage:** stores blood, water and lipids (fats).

**Water resistance:** it keeps supplements from being washed from skin.

**Control water loss:** the skin keeps water from getting away by vanishing.

**Sensation:** nerve endings identify vibration, touch, pressure, temperature, and injury.

**Thermoregulation:** by delivering sweat and dilating veins, skin helps keep body cool.

“Goosebumps” and vein constriction, assist us with holding heat.<sup>[8]</sup>

**Synthesis:** synthesis of vitamin D.<sup>[9]</sup>

**Elimination:** of substances and natural substances like drugs, toxins through sweating, sebaceous secretion, cellular desquamation and transpiration.<sup>[10]</sup>

## TYPES ACCORDING TO SITE OF APPLICATION

- Hair
- Skin
- Dentifrices/Dental Products
- Eyes
- Nail

## STORAGE OF HERBS

- Moisture can harm the herbs.
- Also moisture boost bacterial and fungal development.
- Herbs must not be put away in direct sunlight.
- Herbs must be put away in cool and dry place.
- Dried herbs must be put away in hermetically sealed container.<sup>[11]</sup>

**Table 1: List of herbal plants used in cosmetics for skin care.**

Common name	Botanical Name	Family	Part(s) used	Uses
Aloe	<i>Aloe vera</i>	Liliaceae	Leaf	Dry skin, anti-aging
Cocoa butter	<i>Theobroma cacao</i>	Sterculiaceae	Fruit	Protecting skin from damage of UV light
Coconut oil	<i>Cocos nucifera</i>	Arecaceae	Fruit	Moisturizer, softener
Comfrey	<i>Symphytum officinale</i>	Boraginaceae	Leaves	Cell regeneration, rejuvenate the skin
Cudpahunut	<i>Buchanania lanzan</i>	Anacardiaceae	Seed	Acne, pimples, cleansing
Ehinacea	<i>Ehinacea purpurea</i>	Asteraceae	Roots, stem, leaves	Skin regeneration
Green tea	<i>Camellia sinensis</i>	Theaceae	Leaves	Antioxidant
Holy basil	<i>Ocimum sanctum</i>	Labiatae	Leaves	Antiseptic



Indian gooseberry	<i>Emblica officinalis</i>	Euphorbiaceae	Fruit	Antioxidant
Lemon	<i>Citrus lemonis</i>	Rutaceae	Fruit	Improves skin
Liquorice	<i>Glycyrrhiza glabra</i>	Leguminosae	Roots	Anti-wrinkle
Mango ginger	<i>Curcuma amada</i>	Zingiberaceae	Rhizome	A good face pack
Margosa	<i>Azadirachta indica</i>	Meliaceae	Whole plant	Antiseptic, antimicrobial
Olive oil	<i>Olea europaea</i>	Oleaceae	Fruit	Dry skin, Softener
Pot marigold	<i>Calendula officinalis</i>	Asteraceae	Flower, leaf	Antimicrobial
Papaya	<i>Carica papaya</i>	Caricaceae	Fruit, leaves	Remove dead skin cells, nourishment
Rose	<i>Rosa gallica</i>	Rosaceae	Flower	Cooling effect, cleansing, moisturizer, radiant skin
Rosemary	<i>Rosmarinus officinalis</i>	Labiatae	Flower	Antioxidant
Saffron	<i>Crocus sativus</i>	Iridaceae	Flowering top	Skin cleansing lotion, glowing skin
Sandalwood	<i>Santalum album</i>	Santalaceae	Fragrant wood	Dry skin, antiacne, cleansing, glowing skin
Sesame oil	<i>Sesamum indicum</i>	Pedaliaceae	Seed	Soothing of skin
Strawberry	<i>Fragaria vesca</i>	Rosaceae	Fruit	Photoprotection
Turmeric	<i>Curcuma longa</i>	Zingiberaceae	Rhizome	Antioxidant, bleaching, glowing skin
White lily	<i>Lilium candidum</i>	Liliaceae	Flower	Improves skin, anti aging

Table 2: List of essential oils used in cosmetics for skin care.

Common name	Botanical name	Family	Oil obtained from	Uses
Bergamot oil	<i>Citrus aurantiacum</i>	Rutaceae	Flower	Photosensitizing effect
Chamomile oil	<i>Matricaria chamomilla</i>	Asteraceae	Flower	Sun screen
Cinnamon oil	<i>Cinnamomum zeylanicum</i>	Lauraceae	Bark, leaf	Nourishment, revive the skin tone
Clove oil	<i>Eugenia caryophyllus</i>	Myrtaceae	Flower bud	Antibacterial, antiseptic
Costus oil	<i>Saussurea lappa</i>	Compositae	Root	Antiaging, heal the skin inflammation
Eucalyptus oil	<i>Eucalyptus globulus</i>	Myrtaceae	Leaves	Antiseptic
Geranium oil	<i>Pelargonium graveolens</i>	Geraniaceae	Leaves, stem	Antiinflammatory, regeneration of new skin
Jasmine oil	<i>Jasminum officinale</i>	Oleaceae	Flower	Antibacterial, antiseptic
Lavender oil	<i>Lavandula officinalis</i>	Labiatae	Flowering tops	Perfume, dry skin
Lemon grass oil	<i>Cymbopogon citratis</i>	Graminae	Leaves, aerial part	Antibacterial
Magnolia oil	<i>Michelia champaca</i>	Magnoliaceae	Flower	Antiseptic
Pandanus oil	<i>Pandanus fascicularis</i>	Pandanaceae	Male inflorescence	Moisturizer
Peppermint oil	<i>Mentha piperita</i>	Labiatae	Aerial parts	Cooling effect
Rose oil	<i>Rosa damascena</i>	Rosaceae	Flower	Rosacea, refine skin texture
Sandalwood oil	<i>Santalum album</i>	Santalaceae	Wood	Glowing skin, perfume
Spanish cherry oil	<i>Mimusops elengi</i>	Sapotaceae	Flower	Skin sores, rash
Sweet orange oil	<i>Citrus cinensis</i>	Rutaceae	Fruit	Antibacterial, reduce dark spots and blemishes
Sweet violet oil	<i>Viola odorata</i>	Violaceae	Flower	Antiinflammatory, emollient
Tea tree oil	<i>Melaleuca alternifolia</i>	Myrtaceae	Leaves	Antimicrobial, Antiseptic
Vetiver oil	<i>Chrysopogon zizanioides</i>	Poaceae	Roots	Cooling effect, moisturizer

## DEFINITION OF COSMETIC

“Cosmetic” according to Drug and Cosmetic Act and Rules (1945) means any article intended to be rubbed, poured, sprinkled or sprayed on, or introduced into, or otherwise



applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance, and includes any article intended for use as a component of cosmetic.<sup>[12]</sup>

### **DEFINITION OF POLYHERBAL COSMETIC CREAM**

The natural skin cosmetic must nourish, hydrate and moisturize the skin. When two or more herbs are used in formulations, they are called as polyherbal formulations made to build up a cream which can create multipurpose effects.<sup>[13]</sup>

### **ADVANTAGES**

- Less oily compared to ointment.
- Non-annoyance when applied to the skin.
- Effectively water washable. Simple to wipe away.
- Simple to spread on skin's surface (i.e., easy to apply).
- They give prolong action in their site of use than some other pharmaceutical semi-solid dosage forms.

### **DISADVANTAGES**

- Stability is not comparable to ointment.
- They are short hydrophobic than other semi-solid formulation, so danger of defilement is high than others.

### **IDEAL CHARACTERISTICS**

- It must be non-irritant.
- It must be non-poisonous.
- It must be non-inflammatory.
- It must melt at body temperature.
- It must enter epidermis (through natural opening).
- Its consistency must be sufficiently low to allow simple spreading.<sup>[14]</sup>

### **WHAT INGREDIENTS ARE PROHIBITED BY REGULATION?**

**Top 10 toxic chemicals must be keep away from cosmetics**

**BHA-** toxic to the liver, immune & nervous systems; carcinogen.

**BHT-** toxic to the brain, nervous & respiratory systems; carcinogen & endocrine disruptor.

**D & C COLOUR ADDITIVES-** toxic to nervous & reproductive systems.

**EUGENOL**- poisonous to immune & nervous systems, endocrine disruptor.

**FORMALDEHYDE**- toxic to immune & respiratory systems; carcinogen.

**NITROSAMIDES**- possible carcinogen, endocrine disruptor.

**P-PHENYLNEDIAMINE**- poisonous to immune, respiratory & nervous systems.

**PARABENS**- endocrine disruptor, neurotoxic; carcinogenic.

**PHTALATES**- poisonous to immune, reproductive & nervous systems.

**TRIETHANOLAMINE**- poisonous to immune & respiratory systems; conceivable cancer causing agent.<sup>[15]</sup>

**Table 3: Marketed Products.**

Product name	Ingredient	Manufacturer
Almond nourishing cream	Almond & avocado oil	Ayur
All purpose cream	Sandal oil & almond oil	Baidyanath
Anti wrinkle cream	Almond oil, banana pulp, Olive oil & cucumber juice	Patanjali
Anti-pigmentation cream	White mulberry, daisy flower extract, & vitamin C	Organic harvest
Chocolate nourishing cream	Cocoa butter, almond oil, olive oil, rose water & grapefruit extract	Shahnaz husain
Cold cream	Turmeric, saffron & rose	Dabur
Coconut whitening & brightening cream	Almond oil, manjistha & coconut water	Biotique
Fairness cream	Saffron & alfalfa	Himalaya
Hand and body cream	Milk & honey	Oriflame
Massage cream	Wheatgerm oil, honey, almond oil, extract of tulsi & ashwagandha	Lotus
Natural white fairness cream	Cucumber, liquorice extract & roselle extract	Assure
Oxygen skin treatment cream	Babchi extract, amar bael & olive oil	Shahnaz husain
Tejus beauty cream	Aloevera, sandalwood, tulsi & turmeric	Patanjali
Wild rose smoothing night cream	Rosehip seed oil, peach, sweet almond oil, myrrh extract & olive oil	Weleda

## CONCLUSION

Herbal cosmetic cream is the most preferential cosmetic product has now made strong impact in our life. Several herbal ingredient offers antioxidant, anti-inflammatory, antiseptic, dryness, dark circles, exfoliating dead skin, radiant skin, open clogged pores, antibacterial, rashes and blemishes to skin. Natural beauty care products are prepared, utilizing admissible beauty ingredients to shape base in which single or more herbal ingredients. The chemical formulation of all these cosmetic items incorporates expansion of different natural additives

like natural fragrances, natural oils, waxes or pieces of plants like leaves, stem, bark, flower etc. Herbal cosmetics having certain advantages over there synthetic cosmetics as follows:

- They are environmental friendly and cheap in cost.
- They are safe to use and easily available in the market.
- They are free from side effects and adverse effects.

So the demand of herbal cosmetic is quickly extending in the market.

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