



REVIEW ON PHARMACEUTICAL CREAMS

Prachi Dipak Ashtul*¹, Mr. D. M. Waghmode¹, Santosh Jain¹.

¹ Aditya Institute of Pharmaceutical Nalwandi Road, Beed - 431 122.

Abstract: The creams are considered an important part of the cosmetic product as a topical preparation since ancient times due to their relief on the skin and its removal. From cosmetic purposes, Medicinal creams have a variety of applications such as cleansing, beautifying, changing appearance, moisturizing etc. protect the skin against bacteria, fungal infections and heal cuts, burns, sores on the skin. These fragile arrangements are safe for public and private use. Human skin is vulnerable to damage but has the potential to heal itself. However, a natural healing process can take time and there is also a risk of infection especially in the early stages of injury. In such cases, medicinal creams can be applied to the injured area to speed up the healing process and prevent the wound from becoming infected. In this review, we focus on the application of the drug delivery system to the topics, namely wound healing creams with a detailed discussion on wound healing process, appropriate methods of correcting creams, their classification based on their function, their advantages and disadvantages, features and different types of creams, creams used in creams and its various exploration parameters.

Creams are considered an important part of the cosmetic product as topical preparations from time immemorial due to their relief on the skin and its removal. From cosmetic purposes, healing creams have a variety of applications such as cleansing, beautifying, changing appearance, moisturizing etc. protect the skin against bacteria, fungal infections and heal cuts, burns, sores on the skin. These fragile systems are safe for both public and private use. Human skin is at risk of injury but has the potential to heal itself. However, a natural healing process can take time and there is also a risk of infection especially in the early stages of injury. In such cases, therapeutic creams can be applied to the injured area to speed up the healing process and prevent the wound from becoming infected. In this review, we focus on the application of the drug

delivery system to the topics, namely wound healing creams with a detailed discussion of the wound healing process, appropriate methods of repairing creams, their classification based on their function, their advantages and disadvantages, differences. Types and ingredients of creams, ingredients and creams and creams and their test parameters.

Keywords: Cream, Cosmetics, Skin, Advanced Drug Delivery Program, Wound Healing etc.

INTRODUCTION

The word 'Cosmetic' is derived from the Greek word - 'kosmesticos' meaning adornment. Since then any substances used to enhance or enhance the appearance are known as cosmetics. [1] The term "cosmetics" is actually derived from its use in ancient Rome. They were usually produced by female slaves known as the "cosmetae" from which the word "cosmetics" is derived. Cosmetics are used to enhance the appearance. Makeup has been around for many years. The first known people to use cosmetics to enhance their beauty were the Egyptians. The make-up of those days was simple eye color or body color. Modern cosmetics play an important role in both men and women. The number of cosmetics has increased as more and more people want to stay young and attractive. Cosmetics are easily available today in the form of creams, lips, perfumes, eye shadows, nail polishes, hair sprays etc. Some cosmetics such as face powder give light to the skin after applying a basic cream. Then we have lipstick, which is used by many women of all ages. They are made with wax and cocoa butter in the required amount. Cosmetics such as creams, gels, and cologne are used daily by both women and men. Creams work as a facial cleanser in most cases. Recently, anti-aging creams have been developed that can keep skin looking younger for years. The best cleaning products are cleansing cream, soap and water. Cosmetic creams work as a skin moisturizer for dry, dry and cracked skin. It basically softens, softens and removes unwanted impurities from the skin. Other fat cream creams used include Vaseline and Lanolin. Dry creams are used to make soap and gelatin which are used as a base for the skin. Hair care has become one of the fastest growing markets in the beauty industry. Many young men are turning to oil and gels to care for and repair their hair. Products such as hair gels, oils, and cosmetics have been introduced to the market to help prevent hair loss and scalp. Other activities, such as the exhibiting business industry, focus on the importance of external appearance. Many people and artists have used makeup to conquer heavy lights and camera lights. They are well aware of the importance of their appearance and maintain it by using various cosmetics. Recent research has shown that cosmetics help protect against harmful rays of the sun. Many

manufacturers of beauty products have used people's needs to protect themselves and their skin from the sun's rays. Many manufacturers of beauty products have used people's needs to protect themselves and their skin from the sun's rays. The Importance of Cosmetics Today Cosmetics help to improve our appearance and make us feel more confident. With more cosmetics on the market today than ever before, it is clear that they are a major factor in our daily lives.

DELIVERY OF ESSENTIAL DRUGS:

In the past decades the treatment of this disease has been achieved by giving drugs to the human body through various routes namely oral, transdermal, rectal, parenteral, oral odor etc. The delivery of the articles can be defined as the use of a substance containing the skin. directly treating skin deformities or manifestations of a common disease (e.g. psoriasis) for the purpose of containing a medical or therapeutic effect on the skin surface or inside the skin. delivery, but foam, spray, spray powders, solutions and adhesion systems are effective. [2]

Advantages:

- Avoid first pass metabolism.
- Simple and easy to use.
- Avoid danger.
- Vascular problems and various absorption conditions such as pH alter the presence of enzymes during absorption etc.
- Effective use of low dose daily dose of drug with continuous drug administration.
- Avoid fluctuating drug levels during copyright differences.
- Skin itching or dermatitis may be due to medications or helpful substances.
- Most medicines have a lot of cells and are insoluble in lipid, so they are not absorbed into the skin or mucous membranes.
- Very little absorption.
- It can only be used in those medicines that require very little plasma concentration to be effective.
- It can only be used in medicines that require very little plasma filling to work

- Chances of allergies.

- Large particles are not easy to absorb from the skin. [3]

HUMAN PHILOSOPHY:

Epidermis:

- The epidermis is a thick layer of skin and is made up of stratified keratinized squamous epithelium, which differs in thickness on different parts of the body. It is very thick on the palms of the hands and on the soles of the feet. There are no blood vessels or nerve endings in the epidermis, but its deeper layers are washed away by a medium fluid from the dermis, which provides oxygen and nutrients, and flows like a lymph.

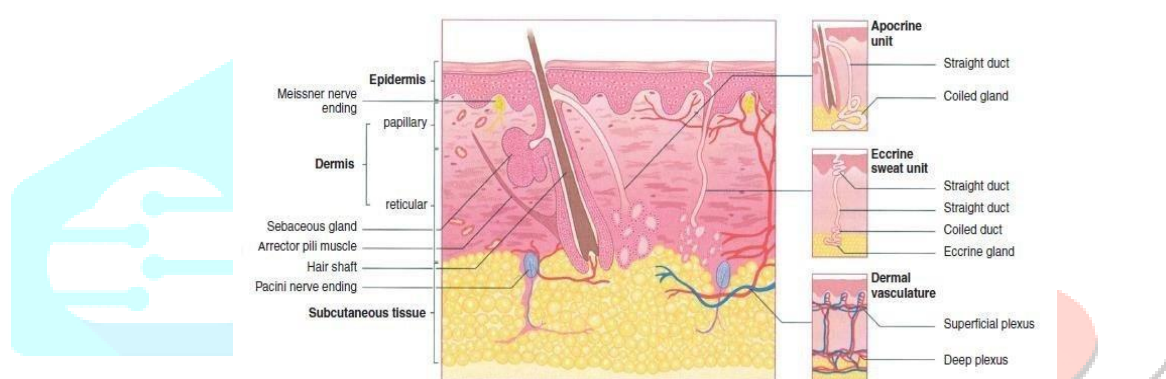


Figure 1: Cross-Section of Skin[4]

Dermis:

The dermis is firm and elastic. It is made up of connective tissue and the matrix consists of collagen fibers attached to elastic fibers. Fractures of the elastic band occur when the skin is stretched too much, leading to permanent striae, or stretch marks, which can be found in pregnancy and obesity. Collagen fibers bind water and give skin firmness, but as this ability decreases with age, wrinkles increase. Fibroblasts, macrophages and mast cells are key cells found in the dermis. Below its deeper layer are areolar tissues and various amounts of adipose tissue (fat).

Subcutaneous gland:

These include secretory epithelial cells located in the same tissue as the hair follicles. They remove oily substance, sebum, from the hair follicles and are present on the skin of all parts of the body except the palms and soles of the feet. They are most common on the skin of the scalp, face, axillae and groins. In areas that change from one type of epithelium to another, such as the lips, eyelids, nipples, labia minora, and glans

penis, there are independent sebaceous glands in the hair follicles, which secrete sebum directly into the surface. [5]

FUNCTIONS OF SKIN

The skin performs the following functions:

a) Protection: An anatomical barrier from viruses and damage between the inner and outer parts of the immune system, Langerhans cells in the skin are part of a changing immune system.

b) Hearing: Contains a variety of nerve endings that respond to heat and cold, touch, pressure, vibration, and tissue damage, see the somato sensor system and haptics.

c) Temperature control: The skin contains much larger blood than its requirements that allow for precise control of radiation loss, flexibility and mobility. Extended blood vessels increase fluid retention and lower temperature, while dense arteries significantly reduce blood flow to the skin and retain heat.

d) Evaporation control: The skin provides a dry barrier to the loss of fluid. Loss of this function contributes to the loss of excess fluid during combustion.

e) Beauty and communication: Others see our skin and can examine our mood, physical condition and attractiveness.

f) Storage and Concentration: It acts as an oil and water storage facility, as well as a combination of vitamin D for UV activity in certain parts of the skin.

g) Water resistance: The skin acts as a water barrier so that essential nutrients are not absorbed into the body.

SKIN DISEASES

a) Vitiligo

Vitiligo is a condition in which skin areas lose their normal color and become white. It is common, and affects about 1% of the world's population. The pigment that gives your skin its natural color is melanin, which is made up of cells known as melanocytes.

b) Scabies

Scabies is a common and very itchy condition caused by scabies. It can affect people of any age but is most common in young and old alike. Worms that cause scabies are smaller, smaller than a pinhead. Scabies is a mixture of scratch marks and scaly red spots; later it can become infected and develop small red spots.

c) Rosacea

Rosacea is a common rash, found in the middle part of the face, usually in the elderly. The tendency to be easily beaten is followed by persistent redness on the cheeks, chin, forehead, and nose. The cause of rosacea is not fully understood, but many think that the element is found in the blood vessels in the facial skin, which is easily stretched.

d) Psoriasis

Psoriasis is a common skin problem that affects about 2% of people. It happens equally to men and women, at any age, and often comes and goes in an unexpected way. It is germ-free, and does not contaminate the skin. The skin is a complex organ composed of several different layers.

e) Melanoma

Cutaneous malignant melanoma is a cancer of the skin color cells. If treated early, the condition is normal. It is not contagious. The word "melanoma" comes from the Greek word "melas", meaning black. Melanin is a dark pigment that gives the skin its natural color.

f) Eczema (Atopic Eczema)

Atopic eczema is a condition of inflammation of the skin. Atopic is a term used to describe conditions such as eczema, asthma, seasonal rhinitis and hay fever, which often have a genetic basis. Eczema is a term used to describe changes in the upper layer of the skin that include redness, blisters, itching, cracking, scaling, thickening and sometimes discoloration.

CREAMS

Creams preparations can be applied to the skin. Creams are defined as "viscous liquid emulsions or solid forms of oil in water or a type of in-oil water" in the same dosage forms that differ from oil and water. [6] Creams are used for cosmetic purposes such as cleansing, beautifying, improving appearance, protection, or therapeutic activity. These topical structures are used for local effect on the delivery of the drug to the lower

part of the skin or mucous membranes. These products are designed to be used sparingly for drug delivery in a better area for skin problems. [7]

Creams are considered a medicinal product as they are prepared based on techniques developed in the pharmaceutical industry; Unused creams and herbal remedies are widely used in the treatment of various skin conditions or dermatoses. The creams can be ayurvedic, herbal or allopathic used by people according to their needs in their skin conditions. They contain one or more molten or dispersed substances in the right place. The creams can be divided into o / w or w / o type emulsion in stages. The term 'cream' is traditionally used for a semisolid formed as an internal fat (e.g. .: cold cream) or oil in water (e.g. burnt cream). [8]

TYPES OF SKIN CREAMS

They are divided into two types:

Oil-in-Water (O/W) creams consisting of small droplets of oil dispersed in a continuous phase, and an emulsion in which the oil is dispersed as droplets throughout the water phase is called an oil-based emulsion (O / W).

Water-in-Oil (W/O) creams are made up of tiny droplets of water dispersed in a continuous oily phase. When water is a dispersed phase and oil dispersion medium, a water-to-oil (W / O) emulsion.[9-11]

CLASSIFICATION OF CREAMS

All the skin creams can be classified on different basis:

1. **According to function**, e.g. cleansing, foundation, massage, etc.
2. **According to characteristics properties**, e.g. cold creams, vanishing creams, etc.
3. **According to the nature or type of emulsion.**
 - a) Types of creams according to function, characteristic properties and type of emulsion:
 1. Make-up cream (o/w emulsion): a) Vanishing creams. b) Foundation creams.
 2. Cleansing cream, Cleansing milk, Cleansing lotion (w/o emulsion)
 3. Winter cream (w/o emulsion): a) Cold cream or moisturizing creams.
 4. All-purpose cream and general creams.
 5. Night cream and massage creams.

6. Skin protective cream.

7. Hand and body creams.

1. **Make-up cream-** These are basically an o / w type of emulsion. It is a cream-based product that leaves hydrated smooth (either stain matte or light) on the skin. It nourishes the skin and resists sweat and creates a dewy glow.

2. **Vanishing creams:** They are called vanishing creams because they appear to disappear when applied to the skin. These structures are based on stearic acid. After application, the cream leaves a dry but tacky film that also has a drying effect on the skin. For this reason, these are mainly used in hot areas that cause sweating on the skin.

3. **Basic creams:** These creams serve as the foundation for makeup. It serves as a basis for adherence to the use of artificial powders. They provide a refreshing and protective action on very oily or very dry skin. A multi-colored make up applied to the face to create a uniform, even color, cover up imperfections and change skin tone.

4. **Cleansing Cream:** These creams are used for cleansing the body and are used for personal hygiene and essential cosmetics. Cleansing creams or lotions can be used to remove makeup, surface grim, oils especially on the face and neck.

5. **Winter Creams:** These are the w / o formations and in this case the oil content formed will be higher than the water content. These creams are widely used for cracked and dry skin. Cold Cream: Known for moisturizer or moisturizing cream. Cold cream should have an emollient action. The cooling sensor used should be produced and the oil film on the skin should not be covered.

6. **All creams and regular creams:** These creams are more widely used today than ever before. These creams are oily but not oily and can spread on the skin easily. This can also be used as a night cream, nourishing cream, protective cream to prevent or reduce sunburn or to treat sensitive skin areas.

7. **Night cream or massage creams:** These creams are widely used to nourish the skin or as a treatment for dry skin. The creams are usually applied to the skin and left for a few hours or nights known as night creams. The creams act as an emollient by applying a cream to the skin with a massage known as a massage cream.

8. **Skin Protections:** These creams are smooth, non-abrasive creams designed to provide an invisible protective film. It helps to keep the barrier between the skin and contaminants that may irritate the skin (contact dermatitis and occupational dermatitis). It strengthens the natural features of the skin and maintains the balance of normal and combination skin.
9. **Hand and body creams:** Hands are one of the first signs of aging. We usually wash our hands several times a day, removing any moisture. Applying the cream softens and protects the skin and keeps the skin looking younger. Since the skin on the palms of our hands and fingers needs oil to stay soft and can protect us from cracking and cracking, it is wise to use a hand cream that replenishes excess fat. They are used more on the hands than on other parts of the body. . [12-15]

COMMON SUPPLEMENTS USED FOR SKIN CREAMS

The immature ingredients used in the manufacture of skin creams include:

- **Water:** This is the most important raw material and is widely used in any form of cream. These are cheap and readily available. For skin creams, water is used as a solvent to dissolve other cream ingredients. Water, free of toxins, dirt, germs, etc. used in the preparation of creams. Water can also form emulsions, depending on how much water is used in the construction and is sometimes called oil-based emulsions and sometimes oil-based emulsions depending on the amount of oil and water phase used. [16]
- **Oil, fats and waxes:** Fats, oils and waxes and extracts form an important part of the cream. Waxes act as an emulsifier, oils act as thieners and oil act as a perfume agent, preservative, etc. in terms of its function .The oil can be of two types of mineral and glyceride.
- **Mineral oil:** Mineral oil containing hydrocarbons found in petroleum oil. Mineral oils are clear, odorless, and highly refined by oil and are widely used in cosmetics. Mineral oils are less likely to cause allergies and are less likely to tighten and clog pores. It is lightweight and inexpensive, helps to reduce dehydration and keeps the body hydrated. Many mineral oils are used in making creams.

Examples:

- Light liquid paraffin
- Heavy liquid paraffin
- Liquid petroleum
- **Glyceride oil:** Glyceride oil especially vegetable oils. Examples of glyceride oil almond oil, arachis oil, castor oil, coconut oil, olive oil etc.
- **Vegetable oils:** Build a barrier over the skin and slow down the loss of water, which helps maintain skin fullness. Vegetable oils can also be used to increase the lipid content of the lipid or cream oil or personal care products. E.g. Almond oil, germ oil, avocado oil, sunflower oil etc. [17]
- **Waxes:** Used in the preparation of creams include beeswax, carnauba wax, ceresin, spermaceti, etc. Waxes are used in cosmetics because they help to preserve the emulsion in the separation of oils and liquid components. These waxes also increase the thickness of the lipid part and sticks on the surface of the skin.
- **Oils:** Different types of oils are used in the preparation of creams. These substances can be found in animals, plants or mineral origin. Glyceride fats and oils may be of animal or vegetable origin. They contain a combination of high fatty acids and glycerin. If saponified makes soap, or fatty acid and glycerin, depending on the process used. The most common of these fatty acids are lauric, margaric, palmitic, stearic, full group. Oleic acid is a liquid and is best known for its unsaturated fatty acids. In particular, the oils used in some cosmetics are olive oil, almond oil, seame oil, peanut oil, coca butter, mutton tallow, buttermilk and beef stearine. [18]
- **Lanolin:** Based on wool. Lanolin is of two types - aqueous lanolin contains between 25% - 30% water. Anhydrous lanolin has a temperature of 38 °C-42 °C and has a slight odor. These ingredients act as a lubricant on the skin surface, making the skin look soft and smooth. Lanolin helps to form an emulsion and blends well with other materials used in cosmetic and personal products.
- **Colors:** Before the advent of modern technology, colors were mainly derived from natural ingredients such as turmeric, saffron, indigo, etc. After the 19th century, the colors were made in a laboratory and found to be very stable. color intensity. They could not be produced without the use of wild plants. [19]

- **Emollients:** Emollients, also called moisturizers, are products that help to soften or treat dry skin. Many emollients are types of fats or oils, such as mineral oils, squalene, and lanolin. They work by increasing the skin's ability to absorb water, give the skin a layer of oil to prevent water loss, and moisturize the skin. [20]
- **Humectants:** These are important multi-functional ingredients found in many skin care products. Humectants are hydroscopic organic compounds. These are substances that can absorb or retain moisture. This has many benefits such as moisture, peeling, etc. Examples of humectant are glycerin, Hydroxyethyl urea, betaine, sodium PCA, Sodium-L-Lactate, etc. [21]
- **Perfumes:** Perfumes and colognes, which are fragrances and flavors. Examples of natural perfumes used in creams are:
 - • White Flowers:
 - • Sweet Dreams
 - • Orange History [22]
- **Vitamins:** Vitamins play an important role in maintaining the healthy function of the whole body and skin. Vitamins A, B, C, E etc are commonly used in the formulation of creams.
- **Preservatives:** The use of cosmetic preservatives is essential to prevent the transformation caused by microorganisms and contamination during the formulation, shipping, storage and use by consumers. Antioxidants can also be used to prevent changes caused by oxygen exposure. Synthetic preservatives when used in low concentrations store products. [23]

PROCESS OF HEALING TIME AND BACKGROUND

- Wounds can be defined as loss or rupture of the cellular and anatomic or continuous function of deep skin tissue or living tissue. Wounds may be physical, chemical, heat, viral, viral, violent or immunological traumatic on the skin. may last the patient's life. Wounds are often referred to as physical injuries that cause cracking and cracking of the skin. Wounds can be classified primarily on the basis of the method of injury and the causative agent such as: [29-30]

Closed wound: contusion, closed fracture, etc.

Open wound

- a) Sharp cut.
- b) Laceration.
- c) Abrasion.
- d) Avulsion.
- e) Crush wound.
- f) Punctured wound.
- g) Bite wound.
- h) Burn wound.

Wound healing is the process of cellular access, movement, re-attachment after an injury or trauma to the skin. Wound healing includes platelet aggregation, blood clotting, fibrin formation, inflammatory reactions, underground mutations, angiogenesis and re-epithilization. [31-32] The healing process cannot be completed until the affected area is woven. strongly by collagen and ultimately eliminate the formation of scars. [33 - 34] The wound healing process may interfere with the presence of free radicals that will damage the surrounding skin tissues. And the wound healing process is influenced by a number of factors such as disease, nutrition, drugs and hormones, type and location of the wound and specific disease conditions. [35] In India, for centuries people have been using natural products derived from plants and animals to treat wounds that have been taught in the popular Indian medicine known as Ayurveda. [36] Natural products have been used for centuries in different parts of the world; natural products are valued as a unique medicine because of its negative effects compared to small. For these reasons, traditional / traditional medicine is being scientifically investigated to improve human health. These are used directly as a raw or raw herb for the treatment of chronic diseases. [37 - 39]

AYURVEDIC MEDICINES FOR HEALING

- 1. Aloe Vera (*A. barbadensis*):** One of the most important herbs in Ayurveda. It is widely used in skin conditions such as burns, psoriasis, cold sores, etc. It can also be fever, itching, inflammation. [40 - 41]
- 2. Peppermint (*Mentha piperita*):** A popular and widely used herb. Peppermint oil when applied to the skin gives a cooling feeling. It is used in aromatherapy, bath preparations, mouthwash, toothpaste and local preparations. It is used to relieve itching, relieve irritation and inflammation and heal wounds. [42 - 43]
- 3. Turmeric (*Curcuma longa*):** In India, turmeric is used as a spice and coloring agent. It has various therapeutic properties such as cancer prevention, antidiabetic, antioxidant, anti-inflammatory, antibacterial, antiviral, wound healing, etc. [44 - 45]
- 4. Jatropha curcas:** Known for its various medicinal properties. Contains anti-microbial, anti-cancer, anti-HIV, anti-bacterial, wound healing, etc. [46]
- 5. Honey:** Honey has long been used as a traditional medicine. Honey contains antioxidant, anti-tumor, anti-inflammatory, anti-microbial and cardiovascular potentiating agents. It is also used to treat wounds and wound healing agents. Honey is used to treat post-operative diseases in adults and newborns, burns, necrotizing fasciitis, infected and non-healing ulcers and ulcers, abscesses, pilonidal sinus, venous ulcers and diabetic foot ulcers. [47 - 48]
- 6. Marigold (*Calendula officinalis*):** A short-lived fragrant plant. A flower / plant that has been used for centuries for decorative, cosmetic and medicinal purposes. Calendula is one of the top herbs and can be taken orally, is one of the most powerful antioxidants and is one of the most powerful anti-bacterial herbs. It has anti-inflammatory, soothes muscle cramps, heals ulcers, wounds, and hemorrhoids, helps with menstruation, contains antibacterial and antiviral components, improves oral health. [49-50]
- 7. Ghee:** The butter found in cow's milk is said to have many medicinal properties such as cooling energy, rejuvenating, giving shine and beauty, improving memory and energy, enhancing the mind, and promoting longevity. It has antimicrobial, immune stimulant, antioxidant and hepatoprotective activity. The procedure for wound healing with cow's ghee is faster than antibiotics. Cow ghee contains a lot of saturated and unsaturated acids that can contribute to the metabolic processes involved in healing any wounds..[51-52]

Table 2: Examples of some plants currently investigated for wound-healing applications

Herb	Main Constituents	Physical Forms and Administration Routes	Laboratorial and Clinical Evidence	Ref
Aloe Vera	Soluble sugars, nonstarch polysaccharides, lignin, polysaccharides, glycoproteins, and antiseptic agents	Forms: solutions, creams, mucilage, gels, and dressing Routes: topical and oral	Anti-inflammatory and antimicrobial activity; stimulate cell proliferation	32-35
Hippophaerhamnoides (sea buckthorn)	Flavonoids (e.g., quercetin, isorhamnetin), carotenoids (e.g., alpha, beta-carotene, lycopene), vitamins(C,E,K), tannins, organic acids, triterpenes, glycerides of palmitic, stearic, oleic acids and, amino acids	Forms : aqueous leaf extract, seed oil Routes :topical and oral	Antioxidant and anti-inflammatory activities; stimulate the healing process; improve wound contraction and epithelialization; increase the hydroxyproline and protein content in the wound	[58-59]
Angelica sinensis	Essential oils and water-soluble ingredients; ferulic acid is the main active constituent	Forms: ethanol extract, ferulic acid dissolved in DMSO Routes: n.a (in vitro tests)	Stimulate the proliferation of human skin fibroblasts, the secretion of collagen	[60]
Catharanthus roseus (Vinca rosea)	Contain two major classes of active compounds: alkaloids (e.g., vincamine) and tannins	Forms:leaf ethanol extract Routes: topical	Antimicrobial activity against Pseudomonas aeruginosa and Staphylococcus aureus; increase	[61-62]

			wound strength, epithelialization, and wound contraction	
Calendula officinalis (marigold)	Triterpenoids and flavonoids	Forms:gels, aqueous extracts, hexane, and ethanolic extracts dissolved in DMSO Routes: Topical	Anti-inflammatory and antibacterial activities; stimulate the proliferation and migration of fibroblasts <i>in vitro</i>	[63]

RELEVANT METHODS OF PREPARATION OF CREAMS FOR WOUND-HEALING:

• Preparation of o/w emulsion cream:

The soluble components of the oil and emulsifier are taken in one bucket and melted in a water bath of 75 ° C. Also in some beaker water, the reserves and soluble components in the water are taken up and melted at 75 ° C. After heating, the oil phase was taken with mud and pestle and gradually the water phase was added and reduced until a clicking sound was heard. Finally, when the temperature cooled, perfumes and / or preservatives were added. In this preparation, the water content will be higher than the fat.

• Preparation of w / o emulsion creams:

The soluble components of the oil and emulsifier are taken in one oven and melted at 75 ° C. And in another pot the water-soluble portions of the water are taken up and melted at 75 ° C. After melting, the water phase is taken up with mud and pestle and gradually the oil phase is added and reduced until a clicking sound is heard. And when the temperature of the cream cools down, then a perfume agent is added. In this setting, the water level will be lower and the oil level will be higher. [64]

EVALUATION PARAMETERS OF CREAMS:

- 1. Determination of pH:** The pH of the cream can be measured with a digital pH of room temperature by taking a sufficient amount of molded solution with the right solvent in the appropriate baker.
- 2. Physical appearance:** The physical appearance of the cream can be distinguished by its color, roughness and texture.
- 3. Spread:** A sufficient amount of sample is taken between two glass slides and a weight of 100gm is applied to the slides for 5 minutes. The spread can be expressed by,

$$S = m * l / t$$

Where,

m = weight applied to the upper slide.

l = length is delivered to the glass slide.

t = time taken.

- 4. Amount of saponification:** 2gm of diluted material 25ml of 0.5 N alcoholic KOH 30 minutes, in this 1ml of phenolphthalein is added and instantly titrated, at 0.5N HCl, note that read as 'a'. Repeat surgery to remove the test item. Note the reading as 'b'.

$$\text{Saponification value} = (b-a)*28.05/w$$

Where,

w = weight of substance in gram.

- 5. Acid value:** 10gm of substance is dissolved in accurately weighed 50ml mixture of equal volume of alcohol and solvent ether, the flask was connected to reflux condenser and slowly heated, until sample was dissolved completely, to this 1ml of phenolphthalein added and titrated with 0.1N NaOH, until faintly pink colour appears after shaking for 30 seconds.

$$\text{Acid value} = n*5.61/w$$

Where,

n = the no. of ml of 0.1 N KOH solution.

w = the weight of substance in gram.

6. **Viscosity:** The viscosity of the formed creams can be determined using the Brookfield Viscometer
7. **Homogeneity:** The structure was tested for similarity in physical appearance and touch.
8. **Removal:** Ease of removal of used creams was checked by washing the used part with tap water.
9. **Dye test:** Red dye mixed with cream. Put a drop of cream on the slide and close with a cover slip and check it under a microscope. If the dispersed globule appears red and the soil is colorless it means it is o / w and the opposite shape is from the w / o type of cream.
10. **After sensing:** Emolliency, smoothness and amount of residual residue after application of a limited amount of cream is checked.
11. **Smear type:** After applying the cream, the type of film or smear built into the skin was tested.
12. **Anger study:** Mark the area 1-1-1qq.cm on the left. The cream is applied in a specified area and the time is marked. Irritation, erythema, edema were diagnosed, if any, at regular intervals up to 24 hours and were reported.
13. **Accelerated Stability Study:** Accelerated stability research was performed to comply with ICH guidelines.

[65]

CONCLUSION: Creams are semisolid compounds that are widely accepted in the community. The skin is the most accessible part of the body and as a result is at high risk of injury. In the event of cuts, burns and wounds, cream-like headaches are the most preferred treatment. Research and development of therapeutic creams for wound healing have expanded in recent decades because of its obvious benefits. With advances in the pharmaceutical and industrial fields, it is guaranteed that herbal creams will continue to be an exciting and attractive research center in the years to come. The most advanced technologies and methods will be used in the preparation, construction and testing of creams for years to come. The need for cream-based remedies is also increasing day by day.

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