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Formulation and Evaluation of Herbal Cream using Alovera Neem Honey

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Abstract: *Herbal cosmetics are defined as the beauty products which posses desirable physiological activity such as healing, soothing appearance, enhancing and conditioning properties because of herbal ingredient. Now-a-days the usefulness of herbs in the cosmeceutical production has been extensively increased in personal care system and there is a great demand for the herbal cosmetics. Herbal medicines are being used by about 80% of the world population primarily in the developing countries for primary health care. They have stood the test of time for their safety, efficacy, cultural acceptability, and lesser side effects. The chemical constituents present in them are a part of the physiological functions of living flora and hence they are believed to have better compatibility with the human body. The use of herbal drugs due to toxicity and side effects of allopathic medicines, has led to rapid increase in the number of herbal drug manufacturers.*

Multipurpose Herbal Cream cream are semi solids preparation used for reduces the chances of skin problems and fights wrinkles. The main aim of the reaserch work is to prepare the moisturizing creams using different herbs and the prepared herbal cream are evaluated for the efficacy. The main objective of our work is to develop an herbal cream which can give multipurpose effect like moisturizer, reduce acne and skin irritation, reduce skin diseases like eczema, psoriasis, dry skin, wrinkles, rashes etc. and also adding glow to the face.

The herbs used in the preparations are aloevera, neem, turmeric and eucalyptus. The formulated moisturizing creams are evaluated for the various irritancy, washability, pH, viscosity, phase separation, spread ability. The results shown that all formulation gave satisfied results..

Keywords: *Herbal cosmetics*

I. INTRODUCTION

Creams are the semisolid dosage forms and intended for topical application to the skin, for therapeutic or protective action or cosmetic function. Creams are used as cosmetic for softening and cleansing action. The demand of cosmetics due to the availability of herbal cosmetics is increasing predominantly. Herbal formulations are receiving more concentration in public because of their high-quality properties and less side effect.[1]

These preparations are used for the localized effects produced at the site of their application by drug penetration in to the underlying layer of skin or mucous membrane. These products are designed to deliver drug into the skin in treating dermal disorders, with the skin as the target organ Creams are semi-solid emulsions of oil and water.

They are divided into two types: oil in-water (O/W) creams which are composed of small droplets of oil dispersed in a continuous phase, and water-in-oil (W/O) creams which are composed of small droplets of water dispersed in a continuous oily phase. Oil-in-water creams are more comfortable and cosmetically acceptable as they are less greasy and more easily washed off using water. Water-in-oil creams are more difficult to handle but many drugs which are incorporated into creams are hydrophobic and will be released more readily from a water- in-oil cream than an oil-in-water cream. Water-in-oil creams are also more moisturising as they provide an oily barrier which reduces water loss from the stratum corneum, the outermost layer of the skin.

It is also true that eight percent of the world's population relies on medicinal plants for their primary health care. Whole world including the developed country recognized the importance of traditional medicine and has treatment strategies, guidelines and standard.

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Cosmetic products are used to protect skin against exogenous and endogenous harmful agents and improve the beauty and attractiveness of skin. Cosmetics are the substances intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, and altering the appearance without affecting the body's structure or functions. Cosmetics are not only developing an attractive external appearance, but towards achieving long life of good health by reducing skin disorders.[1]

The herbal ingredients present in skin care products that supports the strength to the skin, integrity of skin and texture, moisturizing, maintaining elasticity of skin by reduction of collagen and photo protection etc. This character of cosmetic is due to presence of ingredients in skin care formulation, because it helps to reduce the production of free radicals in skin and manage the skin properties for long time. The cosmetic products are the best choice to reduce skin disorders such as skin aging, skin wrinkling, hyper pigmentation and rough skin texture etc.

The demand of cosmetics due to the availability of herbal cosmetics is increasing predominantly. Herbal formulations are receiving more concentration in public because of their high-quality properties and less side effects. Additionally, it also provides the skin with necessary nutrients and required moisture.

The natural ingredients chosen for preparation of herbal cream are turmeric, aloe-vera, neem and Eucalyptus. The choice of these ingredients is based on their individual properties. Face cream are used as cosmetic for softening and cleansing action. The Ayurvedic system of medicine was one of the most important systems that uses herbal plants and extract of the treatment of managements of various disease state.

The function of skin cream is to protect the skin against different environmental condition, weather and gives soothing effect to skin. There are different types of cream like cleansing, cold, foundation, vanishing, night, massage, hand and body creams. The poly herbal cosmetic formulation is receiving recognition all over the world, as they give the enhanced feeling of purity, protection and effectiveness.

World Health Organization (WHO) as well our country has been promoting traditional medicine because they are less expensive, easily available and comprehensive, especially in developing countries.

The usage of synthetic products becomes very harmful from long time for the youth as well as our environment. Various synthetic compounds, chemicals, dye and their derivative proved to cause various skin diseases having numerous side effects. The value of herbs in the cosmeceutical making has been extensively improved in personal care system and there is a great demand for the herbal cosmetics. Thus, we are using herbal cosmetics as much as possible. Herbal formulations always have attracted considerable attention because of their good activity and comparatively lesser or nil side effects with synthetic drugs. Herbal cosmetics are defined as the beauty products which posses desirable physiological activity such as healing, smoothing appearance, enhancing and conditioning properties because of herbal ingredient. Now-a-days the usefulness of herbs in the cosmeceutical production has been extensively increased in personal care system and there is a great demand for the herbal cosmetics.

The basic idea of skin care lies deep in the Rigveda, Yajurveda, Ayurveda, Unani and Homeopathic system of medicine. In this modern era, the knowledge and experience of usage of herbs are being blend with advanced cosmetic technology to develop a safe and effective product, which has wider range of people acceptability. These herbs should have varieties of properties like antioxidant, anti-inflammatory, antiseptic, emollient and antibacterial etc. The word herbal is a symbol of safety in contrast to the synthetic one which has adverse effects on human health.

Over the last decades the treatment of illness has been accomplished by administrating drugs to human body via various roots namely oral, sublingual, rectal, parental, topical, inhalation etc. Topical delivery can be defined as the application of a drug containing formulation to the skin to directly treat cutaneous disorder or the cutaneous manifestations of a general disease (eg. psoriasis) with the intent of containing the pharmacological or the effect of drug to the surface of the skin or within the skin semisolid formulations in all their diversity dominate the system for topical delivery, but foams, spray, medicated powders, solutions and even medicated adhesive systems are in use.[2]

Advantages of topical drug delivery system:

- Avoidance of first pass metabolism.
- Convenient and easy to apply.
- Avoid of risk.

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• Inconveniences of intravenous therapy and of the varied conditions of absorption like Ph changes presence of enzymes gastric emptying time etc.
• Achievement of efficacy with lower total daily dosage of drug by continuous drug input.
• Avoid fluctuation of drug levels inter and intra patent variations.
• Skin irritation or dermatitis may occur due to the drug or excipients.
• Most drugs have a high molecular weight and are poorly lipid soluble, so are not absorbed via skin or mucous membranes.
• Very slow absorption.
• It can be used only for those drugs which need very small plasma concentration for action.
• Can be used only for drugs which require very small plasma concentration for action.
• Possibility of allergic reactions.
• Topical drug delivery system offers a wide range of dosage forms, including creams, ointments, gels, lotions, sprays, etc.
• Topical drugs generally have lower systemic exposure reducing the drug interactions with other medications.
• Avoids invasive and does require needles or injections.
• Some topical drugs delivery systems can provide a sustained release of medication over an extended period.[3]

Advantages of herbal cream

- It is a natural product.
- It is safe and effective to use.
- It is suitable for all skin types.
- It is fewer side effects.
- It has wide variety of selection.
- It is budget-friendly as it consists of natural ingredients.

Herbal cream can give multipurpose effects like: -

- Moisturizer
- Reduce acne Reduce skin irritation
- Reduce skin diseases like eczema, psoriasis, dry skin, wrinkles, rashes etc.
- Adding glow to the face.
- Mosquito Repellent

Fig 2: - HERBAL CREAM

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TYPES OF SKIN CREAMS:

They are divided into two types:

Oil-in-Water (O/W): creams which are composed of small droplets of oil dispersed in a continuous phase, and an emulsion in which the oil is dispersed as droplets throughout the aqueous phase is termed an oil-in- water (O/W) emulsion.

Water-in-Oil (W/O): creams which are composed of small droplets of water dispersed in a continuous oily phase. When water is the dispersed phase and an oil the dispersion medium, the emulsion is of the water-in-oil (W/O) type.[5-7]

CLASSIFICATION OF CREAMS:

Types of creams according to function and characteristic properties

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.[8-11]

GENERAL INGREDIENTS USED IN SKIN CREAMS:

The raw materials which are used in a manufacturing of skin creams include:

- Water
- Oil, fats and waxes
- Mineral oil
- Glyceride oil
- Vegetable oil
- Colours
- Lanolin
- Humectants
- Vitamins
- Perfumes
- Preservatives

Human skin

The skin is the outer covering of the body. It is the largest organ of the integumentary system. The skin has multiple layers of ectodermal tissue and guards the underlying muscles, bones, ligaments and internal organs. Human skin is similar to that of most other mammals, except that it is not protected by a pelt. Though nearly all human skin is covered with hair follicles, it appears hairless. There are two general types of skin, hairy and globous skin. The adjective cutaneous literally means "of the skin". Skin plays a key role in protecting (the body) against pathogens and excessive water loss. Its other functions are insulation, temperature regulation, sensation, synthesis of vitamin D, and the protection of vitamin B folates. Severely damaged skin will try to heal by forming scar tissue.

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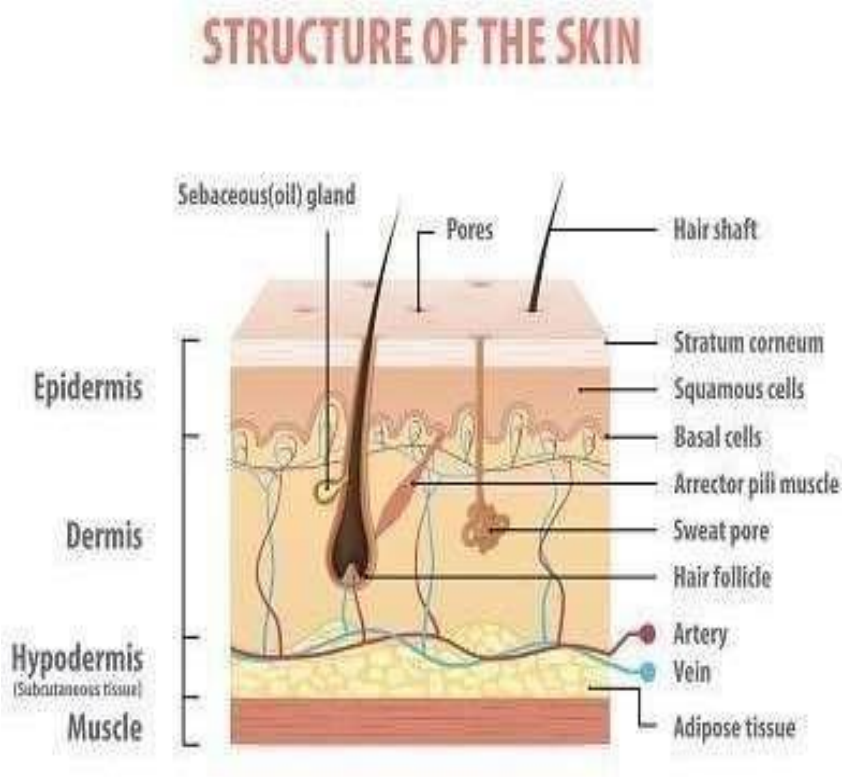

Fig 3: Anatomy of skin

Skin components

Skin has mesodermal cells, pigmentation, or melanin provided by melanocytes, which absorb some of the potentially dangerous ultraviolet radiation (UV) in sunlight. It also contains DNArepair enzymes that help reverse UV damage, and people who lack the genes for these enzymes suffer high rates of skin cancer. One form predominantly produced by UV light, malignant melanoma, is particularly invasive, causing it to spread quickly, and can often be deadly. Skin pigmentation varies among populations in a striking manner.

Skin layers

Skin is composed of three primary layers:

- The epidermis, which provides waterproofing and serves as a barrier to infection.
- The dermis, which serves as a location for the appendages of skin.
- The hypodermis subcutaneous adipose layer.

Epidermis:

The epidermis is the most superficial layer of the skin. It is divided into several layers where cells are formed through mitosis at the innermost layers. They move up the strata changing shape and composition as they differentiate and become filled with keratin. They eventually reach the top layer called stratum corneum. This process is called keratinisation and takes place within weeks. The outermost layer of the epidermis consists of 25 to 30 layers of dead cells.

Sub layers:

Epidermis is divided into the following 5 sub layers or strata:

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- Stratum corneum
- Stratum lucidum
- Stratum granulosum
- Stratum spinosum
- Stratum germinativum

Dermis:

The dermis is tough and elastic. It is formed from connective tissue and the matrix contains collagen fibres interlaced with elastic fibres. Rupture of elastic fibres occurs when the skin is overstretched, resulting in permanent striae, or stretch marks, that may be found in pregnancy and obesity. Collagen fibres bind water and give the skin its tensile strength, but as this ability declines with age, wrinkles develop. Fibroblasts, macrophages and mast cells are the main cells found in the dermis. Underlying its deepest layer there is areolar tissue and varying amounts of adipose (fat) tissue.

Subcutaneous gland:

These consist of secretory epithelial cells derived from the same tissue as the hair follicles. They secrete an oily substance, sebum, into the hair follicles and are present in the skin of all parts of the body except the palms of the hands and the soles of the feet. They are most numerous in the skin of the scalp, face, axillae and groins. In regions of transition from one type of superficial epithelium to another, such as lips, eyelids, nipple, labia minora and glans penis, there are sebaceous glands that are independent of hair follicles, secreting sebum directly onto the surface.[4]

Functions of skin

Skin performs the following functions:

a) Protection: an anatomical barrier from pathogens and damage between the internal and external environment in bodily defence, Langerhans cells in the skin are part of the adaptive immune system.

b) Sensation: contains a variety of nerve endings that react to heat and cold, touch, pressure, vibration, and tissue injury, see somatosensory system and haptics.

c) Heat regulation: the skin contains a blood supply far greater than its requirements which allows precise control of energy loss by radiation, convection and conduction. Dilated blood vessels increase perfusion and heat loss, while constricted vessels greatly reduce cutaneous blood flow and conserve heat.

d) Control of evaporation: the skin provides a relatively dry and semi-impermeable barrier to fluid loss. Loss of this function contributes to the massive fluid loss in burns.

e) Aesthetics and communication: others see our skin and can assess our mood, physical state and attractiveness.

f) Storage and synthesis: acts as a storage centre for lipids and water, as well as a means of synthesis of vitamin D by action of UV on certain parts of the skin.

Diseases of skin

a) Vitiligo

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

b) Scabies

Scabies is a common and very itchy skin condition caused by human scabies mites. It can affect people of any age but is most common in the young and the elderly. The mites that cause scabies are tiny parasites, smaller than a pinhead. The rash of scabies is a mixture of scratch marks and red scaly areas; later it can become infected and develop small pus spots.

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c) Rosacea

Rosacea is a common rash, found on the central part of the face, usually of a middleaged person. A tendency to flush easily 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 defect lies in the blood vessels in the skin of the face, which dilate too easily.

d) Psoriasis

Psoriasis is a common skin problem affecting about 2% of the population. It occurs equally in men and women, at any age, and tends to come and go unpredictably. It is not infectious, and does not scar the skin. The skin is a complex organ made up of several different layers.

e) Melanoma

Cutaneous malignant melanoma is a cancer of the pigment cells of the skin. If it is treated early, the outlook is usually good. It is not contagious. The word 'melanoma' comes from the Greek word 'melas', meaning black. Melanin is the dark pigment that gives the skin its natural colour.

f) Eczema (Atopic Eczema)

Atopic eczema is an inflammatory condition of the skin. Atopic is the term used to describe conditions such as eczema, asthma, seasonal rhinitis and hay fever, which often have a genetic basis. Eczema is the term used to describe changes in the upper layer of the skin that include redness, blistering, oozing, crusting, scaling, thickening and sometimes pigmentation.

Need of work: -

• Natural cosmetics are safest to use and effective as well as in comparison with other beauty product flooded in the market.

• Suitable for all skin types. An individual with the skin of any types can use them and never have to worry about degrading skin condition. • No side effects.

• A product made from botanicals, or plants, that are used to treat diseases or to maintain health are called herbal product.

• The natural content in botanicals does not cause any side effects on the human body; instead, enrich the body with nutrients and other useful minerals.

• Most of the cosmetic products are initially tested on animals to ensure that they are safe and effective to use for human. However, natural cosmetics need not be tested on animals. These natural formulations are tested by Ayurvedic Experts in laboratories using state of the art equipment with no animals involved.

• Natural cosmetics are not that expensive. In fact, they are easily available at low cost.

Aim & Objective

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AIM AND OBJECTIVE

AIM:

Formulation and Evaluation of Herbal Cream using aloe vera, neem, honey.

OBJECTIVE:

• The main objective of our work is to develop an herbal cream which can give multipurpose effect like moisturizer, reduce acne and skin irritation, reduce skin diseases like eczema, psoriasis, dry skin, wrinkles, rashes etc. and also adding glow to the face.

• Formulation of the herbal skin cream using the natural ingredients.

II. LITERATURE SURVEY

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PLAN OF WORK

The plan of work will include the following steps: -

1. Review of Literature
2. Collection of Raw Material
3. Extraction of Raw Material
4. Formulation

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MATERIALS AND METHODS

ALOE VERA

Fig 4: Aloevera

Aloe vera is a plant species of the genus Aloe. It grows wild in tropical climates around the world and is cultivated for agricultural and medicinal uses. Aloe is also used for decorative purposes and grows successfully indoors as a potted plant. It is found in many consumer products including beverages, skin lotion, or ointments for minor burns and sunburns. Aloe vera is a stemless or very short-stemmed plant growing to 60–100 cm (24–39 in) tall, spreading by offsets. The leaves are thick and fleshy, green to grey-green, with some varieties showing white flecks on their upper and lower stem surfaces. The margin of the leaf is serrated and has small white teeth. The flowers are produced in summer on a spike up to 90 cm (35 in) tall, each flower being pendulous, with a yellow tubular corolla 2–3 cm (0.8–1.2 in) long.

Aloe vera gel contains salicylic acid, it helps to unclog pores and can be beneficial for acneprone skin. Aloe vera gel contains polysaccharides, such as acemannan, which have immunestimulating and anti-inflammatory effects. These compounds are believed to contribute to the healing properties of aloe vera. Aloe vera contains anthraquinone compounds, including aloin and emodin. Aloe vera gel contains various vitamins, including vitamin A, C, and E.

- Botanical name: Aloe barbadensis
- Family: Liliaceae
- Part used: Leaves
- Colour: Green

Benefits of aloe-vera

- Its anti-inflammatory properties can reduce pain, swelling, and soreness of wounds or injuries
- It has a cooling effect on rashes or sunburns
- It supports the production and release of collagen
- Help in keeping your face health and gives you a natural shine
- Aloe-vera is rich in moisturizing properties it helps in removing dead cells
- Prevent or reduce wrinkles and dark spots of your face
- Moisturizes dry skin
- Soothes irritated skin
- Remove sign of ageing

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- Fights acne and blemishes
- Remove dark circles and puffiness
- Relieves eczema and psoriasis
- Eliminates dead skin cells
- Treat sunburn
- Bring a natural glow to the skin
- Hydrated the skin with essential
- Prevents premature aging
- Reduce stretch marks

NEEM

Fig 5: Neem

Neem is a fast-growing tree that can reach a height of 15–20 metres (49–66 ft), and rarely 35–40 metres (115–131 ft). It is evergreen, but in severe drought it may shed most or nearly all of its leaves. The branches are wide and spreading. The fairly dense crown is roundish and may reach a diameter of 15–20 metres (49–66 ft) in old, free- standing specimens. Neem is helpful against a wide range of skin, disease including eczema, psoriasis, and dry skin.Neem has fragrance, which makes it effective as a natural insect repellent. It masks the usual body smell that mosquitoes search for, thus making it difficult for them to track you.

The water-soluble active constituent of neem is called nimbin. Nimbin is a triterpenoid compound found in the neem tree (Azadirachtaindica). It is one of the major bioactive components of neem and possesses various medicinal properties.

- Botanical name: Azadiractaindica
- Family: Meliaceae
- Part typically used: Leaves
- Colour: Green

Benefits of neem

- Acts as a shield against dandruff
- It can be used for both face and hair
- Treat dry scalp making it smooth and shiny
- Increase radiance and produce ageing effect
- Increase blood circulation
- Help to treat ulcers
- Keep the skin healthy and glowing
- Neem has anti-bacterial properties which get rid of pimples
- Neem lightens and blurs the scars left behind by acne
- Neem is anti-inflammatory in nature with fatty acids and glycosides
- Neem is rich in anti-oxidant and vitamin E that reduce wrinkles
- Fatty acids and vitamin E in neem nourish the skin
- Help soothe eczema

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- Treat acne
- Prevent skin infection
- Gives even skin tone
- Offers anti-ageing benefits

HONEY

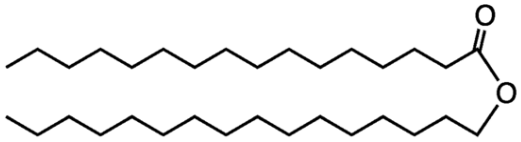
COMMON NAME: Honeybees
SCIENTIFIC NAME: Apismellifera
TYPE: Invertebrates
DIET: Herbivore
GROUP NAME: Colony, swarm
AVERAGE LIFE SPAN IN THE WILD: Up to 5 years
SIZE: 0.4 to 0.6 inches (workers)

Honeybees are important pollinators for flowers, fruits, and vegetables. They live on stored honey and pollen all winter and cluster into a ball to conserve warmth. All honeybees are social and cooperative insects. Members of the hive are divided into three types.

honey, sweet, viscous liquid food, dark golden in colour, produced in the honey sacs of various bees from the nectar of flowers. Flavour and colour are determined by the flowers from which the nectar is gathered. Some of the most commercially desirable honeys are produced from clover by the domestic honeybee.

BEES WAX

Structure:



Properties of bees wax:

Form	Solid
Colour	Yellow to dark brown
Odour	Characteristic
Melting point	62-64°C
Solubility	Insoluble in water

TABLE 1: Properties of bees wax

Uses of bees wax:

- Beeswax carries antiviral, anti-inflammatory, and antibacterial properties that are essential in fighting chapped skin and bacterial infections that tend to affect us most in the dry, winter months.
- It forms a protective wall by sealing in moisture in our skin without smothering and clogging up the pores.
- Because of its anti-inflammatory properties, beeswax has been found to help encourage the healing of wounds.

LIQUID PARAFFIN

Properties of liquid paraffin:

Form	Liquid
Colour	Colourless
Odour	Odourless
Melting point	Undetermined Boiling point degrees C>300

TABLE 2: Properties of Liquid paraffin

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Uses of liquid paraffin:

- Liquid paraffin is used as a barrier cream by providing a layer of oil on the surface of the skin to prevent water evaporating from the skin surface.
- It is an emollient, sometimes known as skin lubricant.
- It is used to soothe, smooth and hydrate the skin.
- In general, this drug is used to soften, hydrate and protect the skin and soothe any irritation, especially in patients with dry skin conditions.
- Benefits of being on this drug can include restoring the skin's smoothness; softness and flexibility by helping the skin retain its moisture.
- Liquid paraffin, also known as paraffinumliquidum, is a very highly refined mineral oil used in cosmetics and for medical purposes.

EXPERIMENTAL WORK

Collection

- The aloe vera was collected from the plants with healthy leaves from local botanical garden. Ensure they have enough gel content.
- The leaves of Neem were collected from different matured plant from the surrounding area. The leaves were dried and stored in airtight container.

Extraction process

Preparation of neem extract:

- Neem was extracted with water by decoction process.
- 9gm powder of neem was taken in conical flask and extracted with water for four hours with occasional agitation.

Fig 8: -Extraction of neem

Prepration of Aloevera extract:

Mature, healthy and fresh aloe Vera leaves were collected and washed with distilled water. Then after proper drying of leaves in hot air oven, the outer part of the leaf was dissected longitudinally using a sterile knife. Then the aloe Vera gel that is the colorless parenchymatous tissue was removed using the sterile knife. Then it is filtered using muslin cloth to remove the fibers and impurities. Then the filtrate or the filter product which is a clear aloe Vera gel was used in the preparation.

Formulation of herbal cream

Formulation of cream Take the liquid paraffin and bees wax in a borosilicate glass breaker at 75°C and maintain that heating temperatures (oil phase).

↓

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In other beaker, dissolve borax and methyl paraben in distilled water by maintaining temperatures 75°C with water bath.

↓

Stir the solution with glass rod until all solid particles get dissolve (Aqueous phase). The gently add heated aqueous phase in heated oily phase with continue stirring.

↓

After mixing both phases, immediately add stearic acid, aloe-vera extract, neem extract, turmeric extract, and eucalyptus extract into it with continues mixing by glass rod until it forms a smooth cream.

↓

When cream is formed, then add rose oil as fragrance.

↓

Put this cream on the slab and add few drops of distilled water if necessary and mix the cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients properly.

Sr. No.	Ingredients	Quantity(F1C)	Quantity(F2C)
1	Aloe vera	2.5ml	3.0ml
2	Neem	0.3ml	0.28ml
3	Honey	2.1ml	2.4ml
4	Bees wax	8.0gm	5.0gm
5	Liquid paraffin	12ml	15ml
6	Borax	0.75gm	0.46gm
7	Methyl paraben	0.6gm	0.5gm
8	Stearic acid	1.0gm	0.5gm
9	Distilled water	qs	qs
10	Rose oil	qs	qs

Table 3: - Formula of cream formulations

Fig10:Cream Formulations

Evaluation of herbal cream

1. Organoleptic Characteristics: The Cream was observed for colour, odour, texture, state of both the formulation F1 and F2.

a) Colour: White (F1 and F2.)

b) Odour: Pleasant (F1 and F2.)

c) Texture: Smooth (F1 and F2.)

d) State: Semisolid (F1 and F2.)

2. Homogeneity: Homogeneity was analysed by visual inspection for the appearance and existence of any clog of both the formulation F1 and F2, the results were shown in the table no.4.

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3. Presence of Foreign Particles: A small amount of formulation was spread on a glass slide free from grease and was observed against the diffused light to check for the presence of foreign particles, the results were shown in the table no.4.

4. Determination of pH: The pH was determined by using digital pH meter. 0.5 g cream was taken and dispersed in 50 ml distilled water, The pH of the formulations F1 and F2 were determined using a pH meter that had already been calibrated. The results were shown in the table no.4.

Fig 11: pH (F1)

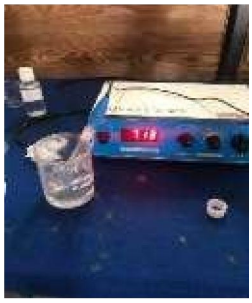

Fig 12: pH (F2)

5. Viscosity: the viscosity of the formulated creams F1 and F2 were determined using a brook filed viscometer at 20 rpm using spindle no. LV- 4(64). The viscosity of the cream should be in the range of 30000 to 49990 cp. The results were shown in the table no.4

Fig 13:Viscocity (F1)

Fig 14:Viscocity (F2)

6. Spread ability: Spread ability of formulated creams F1 and F2 were measured by placing sample in between two slides then compressed to uniform thickness by placing a definite weight for defined time. The specified time required to separate the two slides was measured as Spreadability. Lesser the time taken for separation of two slides results showed better Spreadability. The results were shown in the table no.4.

7. Irritancy Test: The creams F1 and F2 were applied on the dorsal left-hand surface. Irritancy was checked every hour up to 12 hr and reported. The results were shown in the table no.4.

8. Washability: The creams F1 and F2 were applied on the skin and then ease extends of washing with water was checked. The results were shown in the table no.4.

9. Phase separation: The creams F1 and F2 were transferred in a suitable wide mouth container. Set aside for storage the oil phase and aqueous phase separation were visualizing after 24h. The results were shown in the table no.4.

RESULT

Sr. No.	Evaluation	Result (F1)	Result (F2)
1	Colour	White	White
2	Odour	Pleasant	Pleasant
3	Texture	Smooth	Smooth

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4	State	Semisolid	Semisolid
5	Homogeneity	homogeneous	homogeneous
6	Presence of Foreign Particles	No presence	No presence
7	Determination of pH	7.6	7.1
8	Viscosity	28578cp	31676cp
9	Spread ability	8.46g cm/sec	10.88 g cm/sec
10	Irritancy Test	Non irritant	Non irritant
11	Washability	Washable	Washable
12	Phase separation	No phase separation	No phase separation

TABLE 4: Evaluation and their results

II. DISCUSSION AND CONCLUSION

The present work was the formulation and evaluation of multipurpose herbal cream. The formulation is prepared in the two batches i.e. F1 & F2.

By using aloe-vera, neem, turmeric and eucalyptus the cream showed multipurpose effect and all herbal ingredients were used showed different significant activities. Based on the results we can say that both the formulation F1 and F2C were stable at room temperature and can be a safely used on the skin.

The prepared formulations F1 & F2 has good Spread ability.Both the cream formulations do not show any type of phase separation during storage and easily removable after application. The formulations were nonirritant and does not harm to the skin.

Therefore, according results F2 is better formulation than F1 of formulation of herbal cream, as Viscosity and pH of the cream of F2 was better than the F1.

The herbal cosmetic formulation is safe to use and it can be used as the provision of a barrier to protect skin. The result of different tests of cream showed that the formation could be used topically in order to protect skin against damage. Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones.

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