WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 11, Issue 5, 904-920. Review Article ISSN 2277– 7105

A REVIEW – POLYHERBAL ANTIFUNGAL CREAM

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Article Received on
11 March 2022,

Revised on 31 March 2022,
Accepted on 21 April 2022

DOI: 10.20959/wjpr20225-23948

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ABSTRACT

Herbal cosmetics are the preparations used to enhance the human appearance. The aim of the present research was to formulate the herbal Cream for the purpose of Moistening, Nourishing, lightening & Treatment of various diseases of the skin. Different crude drugs; Aloe barbadensis (Aloe Vera leaves), Ocimum Sanctum (Tulsi-leaves), Azadirachta Indica (Neem- leaves), Curcuma longa (Turmeric-rhizomes), Cedro Oil(Lemon Peel), Myristica fragrans(Nutmeg seeds), Olium rosae(Rose Oil), Orange Oil, Prunus dulcis (Almond oil) were taken. Accelerated stability testing of two final sample has been conducted in the environmental chamber with temperature 25 ± 10C and humidity 60 ± 10% RH. All the products were found to be stable with no sign of phase separation and no change in the color. The patch test for sensitivity testing has also been done and no evidence of skin irritation and allergic signs. This work mainly focuses on the assessment of the microbial quality of Formulated cosmetic preparations. To the surprise, both formulations was found to comply with the microbial limit tests as per the international specifications. Thus herbal cosmetics formulation is safe to use was proved and it can be used as the provision of a barrier to protect skin.

1. INTRODUCTION

The concept of beauty and cosmetics is as ancient as mankind and civilization. Indian herbs and its significance are popular worldwide. An herbal cosmetic have growing demand in the world market and is an invaluable gift of nature. 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 possess 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. 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. But 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. Thus we are using herbal cosmetics as much as possible. The basic idea of skin care cosmetic lies deep in the Rig-Veda, Yajurveda, Ayurveda, Unani and Homeopathic system of medicine. These are the products in which herbs are used in crude or extract form. These herbs should have varieties of properties like antioxidant, anti-inflammatory, antiseptic, emollient, anti - seborrhatic, antikerolytic activity and antibacterial etc.[5]

Cosmetics are developed to reduce wrinkles, fight acne and to control oil secretion. For various types of skin ailments formulations like skin protective, sunscreen, antiacne, antiwrinkle and antiaging are designed using varieties of materials, either natural or synthetic. Cream is a polyherbal formulation that consists of Tulsi oil. That herbs have been selected on the basis of a traditional system and scientific justification with modern uses. A herbal cream that can give effective protection to skin and free from any toxicity or toxic residue or any irritation when regularly used and should also be cosmetically acceptable.

Herbal medicine is one of the oldest and most universal system of health care system. The Advancement in the field of herbal drug delivery started recently with the aim to manage human diseases efficiently. World Health Organization (WHO) estimates that 80% of the world populations presently use herbal medicine for primary health care. Every nation is seeking health care beyond the traditional boundaries of modern medicine; turning to self medication in the form of herbal remedies. 1 Modern herbal medicine is based upon the combination of traditional knowledge, clinical experience, understanding of medicinal science and scientific evidence of herbal medicine. People are slowly and gradually switching to alternative forms of medicine.[2]

Advantages of herbal system of medicines

- Lower risk of side effects
- Widespread availability
- Effectives with chronic medicine
- Low cost effectiveness make them all the more alluring
- Natural detoxification process of the body is effectively enhanced by herbal medicine.

Disadvantages of herbal system of medicines

- Bulk dosing.
- Poor stability in higher acidic pH, liver metabolism etc.
- Large molecular size limiting the absorption via passive diffusion.
- High amount of raw material is required for processing the medicine.
- Isolation and purification of individual components from whole herbal extract lead to partial or total loss of therapeutic activity.

These limitation lead to reduced bioavailability and hence, low therapeutic index of plant active constituents. Often, the natural synergy is gone which is due to chemically related constituents present in herbal extract. Hence considerable attention has been given to development of noveldrug delivery system for herbal drug.[5]

Physiology of normal skin

The skin is composed of three layers,

- Epidermis (50–100 μm)
- Dermis (1–2 mm)
- Hypodermis (1–2 mm)

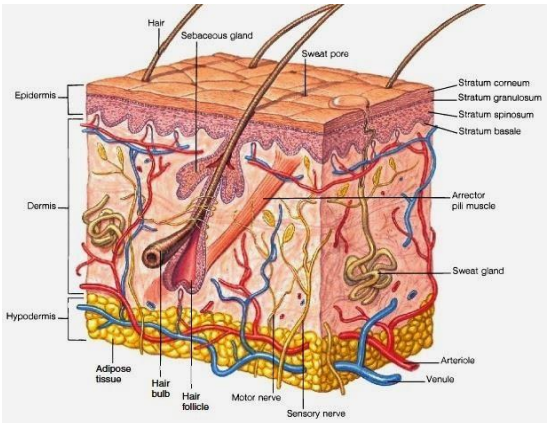


Fig. 1: The anatomical layers of the cutaneous tissue.

The barrier to percutaneous absorption lies within the stratum corneum, the most superficial layer of the epidermis. The function of the stratum corneum is to reduce water loss, provide protection against abrasive action and microorganisms, and generally act as a permeability barrier to the environment.

The stratum corneum is a 10–20 μm thick, multilayer stratum of flat, polyhedral-shaped, 2 to3 μm thick, non-nucleated cells named corneocytes. Corneocytes are composed primarily of insoluble bundled keratins surrounded by a cell envelope stabilized by cross-linked proteins and covalently bound lipids. Corneodesmosomes are membrane junctions interconnecting corneocytes and contributing to stratum corneum cohesion. The intercellular space between corneocytes is composed of lipids primarily generated from the exocytosis of lamellar bodies during the terminal differentiation of the keratinocytes. These lipids are required for a competent skin barrier function.[6]

The epidermis is composed of 10–20 layers of cells. This pluristratified epithelium also contains melanocytes involved in skin pigmentation, and Langerhans' cells, involved in antigen presentation and immune responses. The epidermis, as for any epithelium, obtains its nutrients from the dermal vascular network The epidermis is a dynamic structure and the renewal of the stratum corneum is controlled by complex regulatory systems of cellular differentiation. Current knowledge of the function of the stratum corneum has come from studies of the epidermal responses to perturbation of the skin barrier such as:

(i) Extraction of skin lipids with apolar solvents

(ii) Physical stripping of the stratum corneum using adhesive tape

(iii)Chemically-induced irritation.[9]

Fungi

"Fungi are a kingdom of usually multicellular eukaryotic organism that are heterotrops and have important role in nutrient cycling in an ecosystem".

Characteristics of fungi

Some fungi are single-celled, while others are multicellular. single-celled fungi are called yeast. some fungi alternate between single celled yeast and multicellular forms depending on what stage of the life cycle they are in. Fungi cells have a nucleus and organelles, like plant and animalcellsdo. The cell walls of fungi contain chitin, which is hard substance also found in the exoskeletons of insects and arthropods such as crustaceans. They do not contain

cellulose, which commonly makes up plant cell walls. Multicellular fungi have many hyphae, which are braching filaments. Hyphae have tubular shape and are split into cell-like compartments by walls that are known as septa. These cells can have more than one nucleus, and nuclei and other organelles can move in between them. A fungus network of hyphae is calles a mycelium.[8]

Types of Fungi

- Chytridiomycota
- Zygomycota
- Glomeromycota
- Ascomycota

➢ **Chytridiomycota:** Chytrids, the organisms found in Chytridiomycota, are usually asexual, and produce spores that no around using flagella, small tail like appendages. It can cause fungal infection in frogs by burrowing under their skin.

➢ **Zygomycota**: These are mainly terrestrial. They cause problem by growing on human few soures.

Ex: Rhizopus stolonifer a bread mold**.**

➢ **Glomeromycota**: They are found in soil. The fungi obtain sugar from plant and in return, dissolves, minerals in the soil to provide the plant with nutrients. This fungi also reproduce asexually.

➢ **Ascomycota**: These are the pathogens of plant and animals, including humans in which they are responsible for infection like Athelete's Foot, Ringworm, and ergotism, which causes vomiting, convulsions, hallucination.and sometimes even death.[8]

Fungal Infection

Definition: - an inflammatory condition caused by a fungus. mycosis. zymosis - (medicine) the development and spread of an infectious disease (especially one caused by a fungus) blastomycosis - any of several infections of the skin or mucous membrane caused by Blastomycosis.

Fungal infections are common throught much of natural world. In humans, fungal infection occur when an invading fungas takes over an area of the body and is too much for the immune system to handle. Fungi can live in the air, soil, water and plants. There are also some fungi that live naturally in the human body.

Type of fungal infection

1. **Superficial:** Affect skin – mucous membrane. e.g. tinea versicolor dermatophytes: Fungi that affect keratin layer of skin, hair, nail. e.g. tinea pedis, ring worm infection Candidiasis: Yeast- like, oral thrush, vulvo-vaginitis, nail infections.
2. **Deep infections:** Affect internal organs as: lung, heart, brain leading to pneumonia, endocarditis, meningitis.[10]

Overview of Fungal Skin Inf ections

Fungi usually make their homes in moist areas of the body where skin surfaces meet: between the toes, in the genital area, and under the breasts. Common fungal skin infections are caused by yeasts (such as Candida or Malassezia furfur) or dermatophytes, such as Epidermophyton, Microsporum, and Trichophyton. Many such fungi live only in the topmost layer of the epidermis (stratum corneum) and do not penetrate deeper. Obese people are more likely to get these infections because they have excessive skinfolds, especially if the skin withina skinfold becomes irritated and broken down (intertrigo). People with diabetes tend to be more susceptible to fungal infections as well. Strangely, fungal infections on one part of the body can cause rashes on other parts of the body that are not infected. For example, a fungal infection on the foot may cause an itchy, bumpy rash on the fingers.[7]

These eruptions (dermatophytids, or identity or id reactions) are allergic reactions to the fungus. They do not result from touching the infected area.

Fig. 2: Fungal skin infection.

Symptoms

- Skin changes, including red and possibly cracking or peeling skin.
- Itching.

Causes of fungal skin infection: Imbalance of bacteria is due to following reasons:

- Due to use of antibiotics
- Hormone imbalance
- Poor eating habbits

Diagnosis

Doctors may suspect a fungal infection when they see a red, irritated, or scaly rash in one of the commonly affected areas. They can usually confirm the diagnosis of a fungal skin infection by scraping off a small amount of skin and having it examined under a microscope or placed in a culture medium where the specific fungus can grow and be identified.[5]

Treatment

- Antifungal drugs
- Measures to prevent moisture
- Fungal infections are typically treated with antifungal drugs, usually with antifungal drugs that are applied directly to the affected area (called topical drugs). Topical drugs may include creams, gels, lotions, solutions, or shampoos. Antifungal drugs may also be taken bymouth.
- In addition to drugs, people may use measures to keep the affected areas dry, such as applying powders or wearing open-toed shoes.
- For some infections, doctors give corticosteroids to relieve inflammation and itching.

Cream

Definition- "Cream is semisolid preparation of a medication for topical use (on the skin) that contains a water base. Essentially, it is a preapation of oil (often lanolin or petrolatum) in water. "An ointment is preparation for topical use".[9]

Antifungal cream: "Cream which is used for destroying fungi or inhibiting their growth"

Advantages of Cream

- able to calm inflammation
- Promote skin tone
- Keep wrinkles and acne away
- Increase cell metabolism and blood circulation
- Easily water washable. Easy to wipe away.

- Less greasy compared to ointment.
- Easy to spread on the skin's surface (i.e. easy to apply).
- Suitable for sensitive, dry, and fair skin.
- Suitable for acute lesions

Disadvantages of Cream

- Stability is not as good as ointment
- They are less hygroscopic than other semi-solid preparation, so risk of contamination is high than other.
- Less viscous than other semi-solid preparation.

2) Review of literature

1. A. Premkumar, T. Muthukumaran, V. Ganesan, Shanmugam R., Priyanka D. L-(oct 2014-march 2015). This research paper consist of: A novel cream formulation consisting of combination of miconazole nitrate, mupirocil and hydrocortisone was prepared. The formulation was subjected to in- vitro diffusion studies. Microbiological studies and in-vivo skin irritation studies were performed to find out the safety of material used in the formulation. The developed cream consisting of combination of miconazole nitrate, mupirocil, and hydrocortisone was found to be safe and effective for the treatementof skin infection.
2. Amulyaratna behera & Sumit kumar sahoo-(Jun 2012). This research paper consist of: GB-loded PLGA NPs were prepared by solvent evaporation technique using methanol/dichloromethane(2:1) & characterize by transmission electron microscopy(TEM), and differential scanning calorimetry(DSC). effect of strring speed(250,1000,1500,2500 rpm) and drug : polymer (1:1,1:2,1:3 and 2:1) on particle size, size distribution, zeta potential, drug loading, encapsulation efficiency and drug release was also studied. Stable NPS were successfully prepared without any incompatibility, as indicated by TEM and DSC studies, respectively. As polymer and drugconcentrations and stirring speed increased, particle size, drug loading and encapsulation efficiency also increased. Increase in polymer concentration sustained drug release but reverse was obtained as drug concentration increased.
3. Ashwini. S.Dhase, Somishwar.S. Khadbadi and Shweta.S. Sahoo-(2014). This research paper consist of: The purpose of the present research work was to formulate and evaluate vanishing herbal cream.Herbal creams offer several advantages over the other creams.

The majority of existing creams which has prepared from drug of syntheticorigin, such as acyclovir, triamcinolone, calcipotriene, mometasone, extracts gives fairness to face, but it has several side effects such as itching or several allergic reactions. Herbal cream do not have any of these side effects, without side effects it gives the fairness look to skin.

3. **AIM**: To formulate and evaluate antifungal cream from herbal ingredient.

OBJECTIVE

1) The objective of this research work was to formulate the cream which does not causeside effects or adverse reaction.
2) To study efficacy and safety of prepared antifungal cream.

PHYTOCHEMISTRY OF HERBAL DRUG: Herbal ingredient used**: Tulsi Oil**

Fig.3: Tulsi.

Synonyms: Sacred basil, Kali-Tulsi, Veranda

Biological source: Tulsi consists of the fresh and dried leaves of Ocimum species like Ocimum sanctum L. and Ocimum basilicum L.

Family: Lamiaceae.

Macroscopical characters

1. **Green type of Ocimum sanctum leaves**

(i) Exstipulate, opposite, petiolate. Petiole 2.6 to 3.1 cm long, slender, thin, pubescent with narrow adaxial groove; lamina elliptical to ovoid, oblong 5- 6 cm long and 2.6 to 3.2 cm broad, pubescent.

(ii) Margin: Entire, irregularly undulated or bluntly serate.

(iii)Apex: Acute or obtuse.

(iv) Adaxial surface: Bright green

(v) Abaxial surface: pale green with prominent veins.

(vi) Venation: pinnately reticulate with 5-6, alternate pairs of lateral veins.

(vii) Odour: aromatic.

(viii) Taste: Pungent.[4]

2. Purple type of Ocimum sanctum leaves

(i) Opposite, Exstipulate, petiolate.

(ii) Petiole green with purplish tinge, 3.6 cm long, slender thin, less pubescent with narrow inconspicuous adaxial groove.

(iii) Lamina elliptic to oblong, 5- 8 cm long, 2.6 to 3.6 cm broad.

(iv) Margin: Narrowly or distantly serrate.

(v) Apex: acute or obtuse, almost glabrous except at veins, aromatic with pungent taste, venation pinnately reticulate with 5-7 lateral alternate pairs of veins, adaxial side dark green, abaxial side dull green, veins prominent on both surface.

(vi) Odour: aromatic.

(vii) Taste: pungent.

Chemical Constituents: Volatile oil (0.8%):

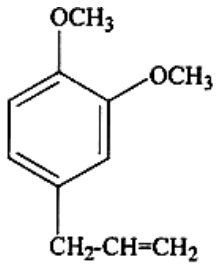
i. Eugenol, nerol, eugenol methyl ether,

ii. caryophyllene, terpinene-4-ol-decyladehyde,

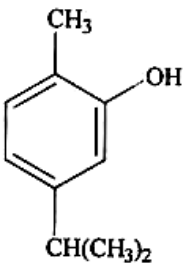
iii. α-selinene, a and β-pinene,

iv. Camphor and carvacrol

v. Cineole, linalool.



Methyl eugenol



Carvocrol

Uses

1. Expectorant, bronchitis.
2. Stomachic.
5. Refrigerant.
6. Antifertility agent.

3. Carminative.
4. Stimulant
7. Spasmolytic Property.
8. Antifungal.[6]

5) Excipient Profile: In this formulation following ingredients are used and their uses as follow:

Table no.1: Uses of ingredients.

Sr.No	Ingredient	use
1	Tulsi Oil	Antifungal Agent
2	Petrolium Jelly	Soothing Agent
3	Hard Paraffin	Lubricant
4	Cetyl alcohol	Emollient
5	Glyceryl monosterate	Emulsifier
6	Methyl Paraben	Preservative
7	Propyl Paraben	Preservative
8	Peppermint Water	Fragrance
9	Activated Characoal	Adsorbent

1. Petroleum Jelly: In this formulation it is used as soothing agent.

a. It is semisolid mixture of hydrocarbon (with carbon number higher than 25).
b. It's melting point is typically in between 40^0c-70^0c.
c. It is flammable only when heated to liquid.
d. It is colourless or has pale yellow colour, translucent, and devoid of taste and smell when pure.
e. It does not oxidise on exposure to air and is not readily acted on by chemical reagent.
f. It is insoluble in water and soluble in organic solvent.[8]

2. Hard Paraffin: In this formulation it is used as lubricant.

a. It is the mixture of solid saturated hydrocarbons that are derived from petroleum.
b. Hard paraffin is colourless or white wax like material that is physically composed of mixture of microcrystals.
c. The melting temperature of hard paraffin is between 47^0c-65^0c.
d. When solid it is used to enhance the rheological property of cream base.[9]

3. Cetyl Alcohol: In this formulation it is used as an emollient.

a. It is also known as hexadecan-1-on and palmityl alcohol.
b. It is fatty alcohol with formula $CH_3(CH_2)_{15}OH$.
c. At room temperature it takes the form of waxy white solid or flakes.

d. The name cetyl derives from the whale oil from which it was first isolated.
a. It's melting point is 49.3^0c.[8]

4. Glyceryl Monosterate: In this formulation it is used as emulsifier.
a. It's melting point is 57^0-65^0c.
b. It is insoluble in water. It is commonly known as GMS, is monoglyceridecommonly used as emulsifier in foods.
c. It takes form of white, odoureless and sweet tasting flaky powder that ishygroscopic.
d. Chemically it is glycerol ester of stearic acid.[8]

5. Methyl Paraben: In this formulation it is used as preseravative.
a. It is preservative with chemical formula $CH_3(C_6H_4(OH)COO)$.
b. It is methyl ester of p-hydroxybenzoic acid.[9]

6. Propyl Paraben: It is used in the formulation as preservative.
a. It is ester of p-hydroxybenzoic acid, occurs as natural substance.
b. It is found in many plant and some insects, although it is manufacturedsynthetically for use in cosmetics and pharmaceuticals and foods.
c. It is member of class of paraben.
d. It is preservative typically found in many water based cosmetics, such as creamlotions.[10]

7. Peppermint water: In this formulation it is used as fragrance.
a. It is active ingredient of pepperimint water is peppermint oil, which comes fromleaves of peppermint plant.
b. It is also known as Menthax piperita L.
c. It is traditional herbal medicine to relieve discomfort in gut such asindigestion, flatulence and stomach cramps.
d. It is clear and colourless.[4]

8. Activated Charcoal: It is used as adsorbent in this formulation.
a. It is used as adsorbent in cream.
b. It has antifungal property because it successfully rid the body poisons.
c. It draws bacteria, poison, chemicals, dirt and other microparicles to surface of skin, helping in achieving flawless complexation and fight acne.
d. It is not metabolized, adsorbed by body, but it can used to treat some poisonousbites and

disinfect some wounds.[4]

6. EXPERIMENTAL WORK

Formulation preparation

The formulation components used were listed in Table 2. Oil in water emulsion of 20 and 60% of drugs were formulated. The emulsifier (glycerol monostearate) and other oil soluble components (petroleum jelly, Cetyl alcohol) were dissolved in the oil phase (Part A) and heated up to 80° C. Extract and water soluble components (Methyl paraban, Propyl paraban) were dissolved in (Part B) and heated up to 80° C.

After heating, the aqueous phase was added in portions to the oil phase with constant stirring until cream is formed, And cream was formulated Having superb color i.e. Lemon yellow. Perfume was added when the temperature dropped to 45 oC ± 50oC.[4]

Table no. 2: Composition of Cream.

Sr.No.	Ingredient	Composition
1	Tulsi Oil	6ml
2	Petrolium Gelly	12.9gm
3	Hard Paraffin	6gm
4	Cetyl Alcohol	1.5ml
5	Glyceryl Monosterate	1.5gm
6	Methyl Paraben	1.2gm
7	Propyl Paraben	0.9gm
8	Peppermint Water	q.s
9	Activated Charcoal	0.03gm

7) Evaluation of Cream

1) **Physical Properties:** The Cream was observed for colour, odour and appearance.

Table 3: Physical Property.

Sr.No	Properties	Observation
1	Colour	Pale Yellow
2	Odour	Characteristic
3	Appearance	Semi-Solid

2) **Stability studies-** Stability testing of drug products begins as a part of drug discovery and ends with the demise of the compound or commercial product. To assess the drug and formulation stability, stability studies were done according to ICH guidelines. The stability studies were carried out as per ICH guidelines. The cream filled in bottle and kept in humidity chamber maintained at 30 ± 2°C/ 65 ± 5 % RH and 40 ± 2°C / 75 ± 5 %

RH for a month. At theend of studies, samples were analyzed for the physical properties and viscosity.[8],[9]

Table 4: Stability Test.

Test	After one month
Physical appearance	Semi-solid
Texture	Smooth and creamy
Colour	Pale yellow
Odour	Characteristic
PH value	6.1
Thermal stability	Stable
Degredation of product	No

3) **Determination of pH:** 0. 5 ± 0.01g of the Cream was weighed accurately in a 10ml test tube. 4.5ml of water was added & dispersed the Cream in it. The pH of the suspension was determined at 27^0 C using the pH meter.[6]

Table 5: PH Test.

Sr. No.	Test	Obsrevation
1	PH(at 27^0c±2^0c)	6

1) **Patch Test** – About 1-3gm of material to be tested was placed on a piece of fabric or funnel and applied to the sensitive part of the skin e.g. skin behind ears. The cosmetic to be tested was applied to an area of 1sq.m. of the skin. Control patches were also applied. The site ofpatch is inspected after 24 hrs.[6]

Result- No any inflammation or irritation to the skin.

2) **Spreadability Test** –An important criteria for semisolids is that it possess good spreadability. "Spreadability is a term expressed to denote the extent of area to which the cream readily spreads on application to the skin". The therapeutic efficacy of a formulation also depends on its spreading value. A specialapparatus has been designed to study the spreadability of the formulations. Spreadability is Expressed in terms of "time in seconds" taken by two slides to slip off from the formulation,placed between, under the application of a certain load. Lesser the time taken for the separation of the two, better the spreadability. Two glass slides of standard dimensions were selected. The formulation whose spreadability had to be determined was placed over one of the slides. The other slide was placed on top of the formulations was sandwiched between the two slides acrossthe length of 5 cm along the slide. 10 g weight was placed up on

the upper slide so that theformulation between the two slides was pressed uniformly to form a thin layer. The weight wasremoved and the excess of formulation adhering to the slides was scrapped off. One of the slides was fixed on which the formulation was placed. The second movable slide was placed over it, with one end tied to a string to which load could be applied by the help of a simple pulley and apan. A 3g weight was put on the pan and the time taken for the upper slide to travel the distanceof 5.0cm and separate away from the lower slide under the direction of the weight was noted. The spreadability was then calculated from the following formula:[6]

Spreadability= m ×l /t

Where, m = weight tied to the upper slide (3g)l =length of glass slide (5cm)

t =time taken in seconds

Table 6: Spreadibility Test.

Formulation	Time(In sec)	Spreadability(g.cm/sec)
Antifungal cream	1.5	10

6) Test for microbial growth in formulated creams: The formulated creams were inoculated on the plates of agar media by streak plate method and a control was prepared by omitting the cream. The plates were placed in to the incubator and are incubated at 37 ^{0}C for 24hours. After the incubation period, plates were taken out and check the microbial growth by comparing it with the control.[10]

Fig.4: Microbial test.

RESULT AND DISCUSSION

A majority of the world's population in developingcountries still relies on herbal medicine to meet its health needs and because of thisextensive research is now being carried out in this area.

a. The stability studies of the various parameters like visual appearance, nature, pH of the formulations showed that there was no significant variation after two weeks of the study period and the results are summarized in table no.4
b. The pH of the prepared cream with the extract was found to be around 6 which is suitable for topical application because the pH of the skin is between 4.5– 6.Results are summerised in table no.5.
c. The formulation of cream shows no redness, edema, inflammation and irritation during Patch Test studies. These formulations are safe to use for skin.
d. The spreadability studies showed that formulation have better spreadability The resultsof pH and spreadability are summarized in table no.6.
e. The formulated creams were tested for the presence of pathogenic microorganisms by culturing it with agar medium. (Fig.no.4) There were no signs of microbial growth after incubation period of 24 hours at 37^0 C and having more antifungal property as compareto standard.

8. CONCLUSION

The present work focuses on the potential of herbal extracts from cosmetic purposes. The uses of cosmetic have been increased in many folds in personal care system. The use of bioactiveingredients in cosmetic influence biological functions of skins and provide nutrients necessary for the healthy skin. The prepared formulations showed good spreadability, no evidence of phase separation and good consistency during the study period. Stability parameters like visual appearance, nature variation during the study period and fragrance of the formulations showed that there was no significant changes during study period.

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