

[https://doi.org/10.46344/JBINO.2023.v13i02\(a\).05](https://doi.org/10.46344/JBINO.2023.v13i02(a).05)

FORMULATION & EVALUATION OF MULTIPURPOSE HERBAL CREAM

Dr Ashutosh Kumar Yadav*, Sumit Singh¹, Akash Verma², Reetu³

Associate Professor, Institute of Pharmacy, Dr Shakuntala Misra National Rehabilitation University, Lucknow, India, Email Id: drashutoshyadav2@gmail.com

^{1,2,3} Lucknow Model college of Pharmacy, Lucknow.

ABSTRACT

Objective: - To formulate and evaluate herbal cream using Aloe vera gel, Neem extract (Azadirachta indica) and Turmeric (Curcuma longa) to give multipurpose effect.

Methods: - The cream was prepared by using cream base which is liquid paraffin, beeswax, methyl paraben, borax, distilled water, Aloe vera gel, extracts of Turmeric and Neem. The cream was prepared by slab technique or extemporaneous method for mixing the cream in geometric manner to provide a smooth texture and for mixing of all ingredients properly. From using slab technique, we have formulated F1H, batch of our herbal cream. F1H, batch were evaluated / test for different parameters like physical evaluation, pH, irritancy, viscosity, phase separation and spreadability.

Results: - F1H, formulations, showed good appearance, almost neutral pH, no erythema, edema and redness on skin during irritancy study, easily washable, good spread ability and no phase separation. The formulations F1H, were found stable at room temperature.

Conclusion: - By using Aloe vera gel, Neem and Turmeric the cream showed multipurpose effect and all herbal ingredients were used showed different significant activities. Based on the results we can say that formulations F1H, were stable at room temperature and can be safely used on the skin.

Keywords: - Aloe Barbadensis (gel), Azadirachta indica (Neem), Curcuma longa (Turmeric), Multipurpose cream, Herbal cosmetic.

INTRODUCTION

Now a days the demand of herbal creams is increasing day by day. 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. The herbal cream formulations are receiving recognition all over the world, as they give the enhanced feeling of purity, protection and effectiveness. A large quantity of creams is existing in the market under the maker of natural, protected, organic, and herbal. The global herbal products market size was valued at USD 78.5 billion in 2019 and is anticipated to grow at a compound annual growth rate (CAGR) of 5.2% from 2020-2027^[14]. Most of the creams at present existing in the bazaar use the synthetic polymers, emulsifiers, perfuming agents, pigments, surfactants and thickeners to form the base. There is wide need to substitute toxic synthetic agent from base using natural agents. The natural ingredients chosen for preparation of herbal cream are Neem, Turmeric, Aloe-vera and Amla etc.

Ayurveda is the 'science of life'. Ayurveda - Ancient Science of Indian Health, since life is synonymous with health, Ayurveda is deemed to be the 'science of human health'. Ayurveda's approach towards healing is holistic. It doesn't deal with individual organs in isolation, but treats the body as a whole. More important, it doesn't give temporary relief, but fights the disease and help get

rid from them. The Ayurvedic Cream vanishes into your skin, rejuvenates and revitalizes your skin from within, leaving it soft, supple and young looking. Turmeric is a wonderful versatile root that has been in every Indian household for centuries. Its amazing properties range from flavoring curries, to sterilizing wounds, to grooming women. Now a day'sherbal extracts are used in the cosmetic preparations for augmenting beauty and attractiveness. Herbal cosmetics are classified on the basis of dosage form like- cream, powder, soaps, solutions, etc. and according to part or organ of the body to be applied for like; cosmetics for skin, hair, nail, teeth and mouth etc. Creams are semi-solid preparations containing one or more medicinal agents dissolved or dispersed in either a water-in-oil emulsion or oil-in-water emulsion or in another type of water-washable base. Cream can be classified as oil in water and water in oil emulsion. It is applied on surface or superficial part of skin and it's advantage is to remain for a longer duration of time on site of application. The main purpose of our work was to formulate a herbal cream which can produce multipurpose effect, like moisturizer, reduce acne and irritation, reduce skin conditions like psoriasis, eczema, wrinkles, dry skin, rashes etc. and also add glow to the skin. Aloe vera, Neem and Turmeric, these three herbal ingredients are used in our preparation. Aloe vera acts as Anti-ageing, anti-inflammatory, moisturizer, reduce acne and pimples. Neem is used to promote wound healing, relieves skin

dryness, itching and redness and it is also used to reduce pigmentation and scar. Turmeric is used as antibacterial and adds glow to the face.

Advantages of herbal creams over synthetic

Herbal creams are the latest, a safe and effective trend in the field of beauty and fashion. These Herbal Creams are gaining popularity as nowadays most people prefer natural products over chemicals for their personal care to enhance their beauty as these products supply the body with nutrients and enhance health and provide satisfaction as these are free from synthetic chemicals.

Natural products

As the name suggests that herbal creams are natural. They are free from all the harmful synthetic chemicals which are proven to be toxic for the skin of a person. Different parts of the plant and plant extracts are used in herbal products. They also consist of natural nutrients like Vitamins and minerals that keep skin healthy, glowing.

Safe and effective to use

In comparison with other beauty products flooded in the market, natural creams are safest to use and effective as well. They are hypo-allergenic and prepared by Ayurvedic Experts to be safe to use. Since they are made of natural ingredients, people don't have to worry about getting

any issue related to the skin like skin rashes or experience skin itchiness. Not known by many people that BHA (Butylated Hydroxy-anisole) and BHT (Butylated Hydroxytoluene) are synthetic antioxidants and are used as preservatives in moisturizers and many other beauty products ranges. BHA and BHT can induce allergic reactions in the skin. Herbal creams contain natural antioxidants.

Suitable for all skin types

Natural creams are 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.

Not tested on animals

Most of the cream products are initially tested on animals to ensure that they are safe and effective to use for human. However, natural creams 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 involve.

Budget-friendly

Natural creams are not that expensive. In fact, they are easily available at low cost. So you need not to be in fear of splurging.

Herbal creams can be grouped into following major categories

1. Herbal creams for skincare of all age group as well as enhancing the appearance of face. 2. Herbal creams for hair growth and health as well as scalp car.

Concept of beauty in Ayurveda

Some are beautiful by birth and some want to become beautiful. The concept of using herbs for beautification is well defined in Ayurveda. The cream preparations are used in India since the Vedic period. The external application of Chandana, Haridra and tiktakandaka, etc. are seen in many rituals of India. Ayurveda emphasizes on external as well as internal beauty. It is believed in Ayurveda that one can enhance internal & external beauty by understanding the basic principle of Ayurveda. Health promotion, beauty management and healing in Ayurveda rely on freeing the body of ama (toxins), restoring cellular nutrition and re-establishing the balance of the doshas.

Health benefit of Neem leaves: - it acts as a shield against dandruff. It can be used for face and hair. It has vitamin C properties and it is capable of removing blackheads and dullness. It produces anti-ageing effects.

Health benefit of aloe vera: - Aloe vera is rich in moisturizing properties, it helps in removing dead cells. Aloe vera helps in keeping your face healthy and natural shine. Aloe vera is very beneficial for dry and cracked skin. Aloe vera also prevents wrinkles and dark spots. Aloe vera also gives protection against UV Rays.

Health benefit of Turmeric: - Turmeric is a powerful antioxidant. Turmeric is a natural anti-inflammatory and anti-cancer agent. Turmeric protects your body from free radicals.

It improves skin health.

LITERATURE REVIEW

Chauhan Lalita, et.al (2020) examined that creams were considered an important part of cosmetic product as topical preparations from time immemorial due to their ease of application to the skin and also their removal. For cosmetic purposes, pharmaceutical creams have a variety of applications such as cleansing, beautifying, altering appearance, moisturizing etc. to skin protection against bacterial, fungal infections as well as healing cuts, burns, wounds on the skin. These semi solid preparations are safe to use by the public and society.

Navindgikar nitin, et.al (2020) investigated Cream as semisolid emulsions which are oil in water (o/w) or water in oil (w/o) type and these semisolid emulsions are intended for external application. Cream was classified as oil in water and water in oil emulsion. It is applied on outer part or superficial part of the skin and its main ability was to remain for a longer period of time at the site of application. The function of a skin cream is to protect the skin against different environmental conditions, weather and gives soothing effect to the skin.

D.Archana, et.al (2019) studied that the herbal cream were the preparations used to improve the individual appearance. The aim of the present study was to prepare the herbal cream for the use of moistening, nourishing and cure of various disease of the skin. Different crude drugs like Aloe barbadensis(AloeVera leaves), Azadirachta indica (Neem-leaves), Curcuma longa (Turmericrhizomes) and Emblicaofficinali(Amla) were used to formulate the cream. The selection of ingredients based on the different medicinal properties of the agents. The cream was subjected to various evaluation parameters.

KL Satpute, et.al (2019) analysed that many plants seem to have inhibitory effects on the growth of bacteria, fungi and viruses in vitro. However, there were few clinical evidences about the effectiveness and safety of these plants in the treatment of acne and other skin infections. Consumption of alternative and complementary medicine, including medicinal plants, is increasing and is common amongst patients affected by acne and infectious skin diseases. Medicinal plants have a long history of use and have been shown to possess low side effects. This plant is a reliable source for preparation of new drugs. As the herbal formulations of Boswellia oil had shown better antiacne activity.

M.B Bhaltadak, et.al (2018) investigated that the purpose of the work was to

formulate and evaluated the herbal skin cream of crude drug comprising extracts of curcuma longa (Turmeric). One marketed formulation and one In house formulation were subjected to comparative standardization. There is a growing demand for herbal cosmetics in the world market and they are invaluable gifts of nature. Therefore, we tried to make an herbal skin cream containing the extract of curcuma longa in along with sandalwood oil. The extract of curcuma longa has antiseptic activity, anti-inflammatory activity, and also increases whitening of skin.The sandalwood oil increases the glow on skin and has emollient properties. Hence all these properties are beneficial to normal human keratinocytes and it is safe and stable too. The preparedAyurvedic skin cream was evaluated with different parameters like appearance, Spreadability; pH, viscosity, rheological study and stability along with irritancy test.

K.Bijauliya Rohit, et.al (2017) studied that the ability to desire the right herbal cream formulation for you depends on accurate ingredient knowledge, bodyPrakriti assessment, personal needs, customer perception about product, benchmark product. Corrective formulation based natural beauty preparation, which has cosmetic value or safe additive properties in replacing synthetic ingredient. There is need to do more R and D in the field of herbal cosmeticto prove effectiveness and established herbal cosmetic in safety profile.

Shubhangi E. Sawant, et.al (2016) the work was to formulate and evaluate the ointment of Neem (*Azadirachta indica*) and Turmeric (*Curcuma longa*) extract. The ethanolic extracts were prepared by using maceration method. The ointment base was prepared and formulation of ointment was done by incorporating the extract in the base by levigation method. After completion of formulation, it was evaluated for its physicochemical parameters like colour, odour, pH, spreadability, extrudability, consistency, diffusion study, solubility, washability. Also, the formulation was evaluated for its stability at various temperature conditions which shows no change in the irritancy, spreadability and diffusion study. Thus, it could become a media to use the medicinal properties of Neem and Turmeric effectively and easily as a simple dosage form.

Aswal Ashish, et.al (2013) investigated that the Cosmetic products are used to protect skin against exogenous and endogenous harmful agents and enhance the beauty and attractiveness of skin. The use of cosmetics not only developing an attractive external appearance, but towards achieving longevity of good health by reducing skin disorders.

Sujith S Nair, et.al (2012) observed that creams were formulated based on the anti-oxidant potential of herbal extracts and its evaluation. Selected plant parts

were dried and extracted using 70% alcohol by maceration. The extract was tested for antioxidant activity by superoxide scavenging activity. Quality evaluation of the product was assessed by using different evaluation methods. No change of the physical properties was observed; the pH was in a proper range (approximately pH6). The marker Curcumin was present in the extract, formulation and the peak were comparable with standard Curcumin obtained by HPLC.

Abhijeet Pandey, et.al (2010) studied that, herbal ointment containing Aloe vera, Neem and Turmeric was formulated and evaluated to study antibacterial and antifungal activity. The evaluation was done using cup plate method for zone of inhibition and twofold dilution method for MIC (Minimum Inhibitory Concentration). The study showed that Aloe ointment was exhibiting broad-spectrum antifungal activity and antibacterial activity against *E. coli*. The overall experiment showed that Aloe ointment and Turmeric ointment showed more antifungal activity than Neem ointment.

Borax (sodium tetraborate) • A preservative.

- Emulsifying agent. • Water softener.
- Cleanser, particle suspender, or buffering agent.



Fig.1: Borax

Propyl Paraben

- A preservative and.
- To increase shelf life.



Fig.2: Propyl paraben

EXTRACTION PROCESSES

Neem

Collect fresh neem leaves. Washed it with distilled water. Boil the neem leaves for 2 hours. Then filter it by filter paper and clear solution is obtained.



Fig.3: Neem Extract



Fig.4: Aloe Vera Extract

Aloe vera

Collect mature and fresh aloe vera leaf from plant. Washed it with distilled water. Leaf is dissected longitudinally by sterile knife. Then semi-solid aloe vera is collected. Remove fibers and impurities from it. Aloe vera extract is obtained.

Turmeric



Fig.5: Turmeric Extract

Take 1g turmeric powder in 10ml distilled water and shaken in volumetric flask. Heated in waterbath at 80 to 100⁰C for 5 to 10 minutes. Then filtered it and turmeric extract is obtained.

FORMULATION OF HERBAL CREAM

Sr. no.	Ingredients	Formulation F1H
1	Aloe vera gel	2.7ml
2	Neem extract	0.9ml
3	Turmeric extract	2.7ml
4	Beeswax	2.7 g
5	Liquid paraffin	18 ml
6	Borax	0.36g
7	Propyl paraben	0.03g
8	Distilled water	QS
9	Rose oil	QS

Procedure

- Take the liquid paraffin and beeswax in a borosilicate glass beaker at 75⁰C and maintain that heating temperature (Oil phase).
- In other beaker, dissolve borax and propyl paraben in distilled water by maintaining temperature 75⁰C with water bath. Stir the solution with glass rod until all solid particles gets dissolved (Aqueous Phase).
 - Then gently add heated aqueous phase in heated oily phase with continue stirring.
- After mixing both phases, immediately add Aloe vera gel, Neem extract and Turmeric

extract into it with continue mixing by glass rod until it will forms a smooth cream.

- When the cream is formed, then add rose oil as fragrance.
- Then transfer this cream in slab and mix the cream in geometric manner to provide a smooth texture and for mixing of all ingredients properly.
 - Add few drops of distilled water if necessary.



Fig.6: Heating



Fig.7: Bees Wax and Liquid Paraffin

CONCLUSION

As our lifestyle is now getting techno-savvy, we are moving away from nature. While we cannot escape from nature because we are part of nature. As herbs are natural products, they are free from side effects, they are comparatively safe, eco-friendly and locally available. Traditionally there is lot of herbs used for the ailments related to different seasons. There is a need to promote them to save the human lives.

These herbal products are today are the symbol of safety in contrast to the synthetic drugs, that are regarded as unsafe to human being and environment. Although herbs had been priced for their medicinal, flavoring and aromatic qualities for centuries, the synthetic products of the modern age surpassed their importance, for a while. However, the blind dependence on synthetics is over and people are returning to the naturals with hope of safety and security. It's time to promote them globally.

By using Aloevera gel, Neem and Turmeric the herbal cream was formed which had showed multipurpose effect and also showed different significant activities. Based on the results we can say that formulations F1H is stable at room temperature and can be safely used on the skin.

REFERENCE

1. D. Archana, C. Vikas, S. Nardev, Formulation and Evaluation of Multipurpose Herbal Cream, Journal of

Drug Delivery & Therapeutics, 2019, 9(2): 341-343

2. N.Sujith, M. Molly, Formulation and Evaluation of Herbal Cream Containing Curcuma longa, 2012, 1(4): 2277-5005

3. L. Mane Snehal, Rubia Quazi Formulation and Evaluation of Herbal Antiseptic Burn Cream, 2020, 7(2): 2349-5138

4. Bhaltadak M.B, Navthale H. A, Formulation and Comparative Standardization of Ayurvedic Skin Cream Indo American Journal of Pharmaceutical Research, 2018, 8(09): 2231-6846

5. KL Satpute and TM Kalyankar, Formulation and Evaluation of Herbal Cream for treatment of acne, Journal of Drug Delivery & Therapeutics. 2019, 8(3):2618-2624

6. Kumar Bijauliya Rohit, Alok Shashi, Kumar Mayank, a Comprehensive Review on Herbal Cosmetics ijpsr, 2017; 8(12): 4930-4949

7. E. Sawant Shubhangi, D. Tajane Monali Formulation and evaluation of herbal ointment containing Neem and Turmeric extract Journal of Scientific and Innovative Research 2016, 5(4): 149-151

8. Pandey Abhijeet, Jagtap V Jui Formulation and evaluation of anti-bacterial and antifungal activity of a herbal ointment containing Aloe-vera,

Azadirachta indica and Curcuma-longa J.
Chem. Pharm. Res, 2010, 2(3): 182-186

Cream der Pharmacia Lettre, 2013, 5 (1):
83-88

9. Chauhan Lalita, Gupta Shalini A
Review on Classification, Preparation
Methods, Evaluation and its Applications
Journal of Drug Delivery & Therapeutics,
2020, 10(5): 281-289

12. Evans WC, Trease GE, Pharmacognosy,
Bailliere Tindall Eastbourne, 15th ed, UK,
1996, 256 (1996).

10. Navindgikar Nitin Nikhil, Kamalapurkar
A. K Formulation and Evaluation of
Multipurpose Herbal Cream int j curr pharm
res, 2020, 12(30) 25-30

13. Patil Bhavana, Neha Yadav Formulation
and Evaluation of Multipurpose Herbal
Cream, 2022, 9 (3): 2349-5162

11. Aswal Ashish, Kalra Mohini Preparation
and Evaluation of Polyherbal Cosmetic

14.
<https://www.grandviewresearch.com/industry-analysis/herbal-beauty-product-market>.

