

“Formulation and Evaluation of Poly Herbal Face Cream”

Ganta Manasa¹, Dr.T. Satyanarayana², Md. Kamal pasha³, N. Bhashpitha⁴, R. Komadhi⁵,
R. Jhansi⁶, Sk. Forhana⁷

Mother Teresa Pharmacy College, Sathupally, Khammam, Telangana

Date of Submission: 01-09-2021

Date of Acceptance: 12-09-2021

ABSTRACT: In the present era, a large number of Indian population rely on the traditional system of medicine which is mostly plant based. Due to the wide applicability of the plant materials, now a day the development of herbal and ayurvedic preparation is increasing progressively. Specially, the incorporation of the medicinal plant materials in pharmaceutical dosage forms is gaining much importance. Important pharmaceutical creams are semi solid preparations. Contain medicinal agents intended for external application the aim of the present work was to formulate and evaluate the creams by using ingredients of natural origin. Leaves of *azadirachta indica*, *syzygium samarangense*, *Carica papaya*, *Annona reticulata*, *Curcuma longa* were selected for formulation. Initially the plant materials were extracted with ethanol and dried extracts were incorporated in different proportion to get different formulation. The formulated cream were evaluated for physical parameters viz. pH, viscosity and spreadability. The stability studies were conducted for the period of 45 days with an interval of 15 days antibacterial and antifungal activity of the polyherbal cream were carried out by using microorganisms.

KEY WORDS: *Azadirachta indica*, *Syzygium samarangense*, *Carica papaya*, *Annona reticulata*, and *Curcuma longa*

I INTRODUCTION

Everybody wants to get fair and charming skin. Now a day, Acne, black head, pimples, dark circle are common among youngsters and person who suffers from it. According to Ayurveda, Skin problems are normally due to impurities in blood. Accumulated toxins in the blood during improper food and lifestyle are causing skin related diseases. Various herbs, medicines are described in Ayurveda for blood purification. Herbs like *Manjistha*, *Lodhra*, *Chandana*, *Haridra* etc. are good example of blood purifier. Cosmetic products are used to protect skin against exogenous

and endogenous harmful agents and enhance 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. The use of cosmetics not only developing an attractive external appearance, but towards achieving longevity of good health by reducing skin disorders. The plant parts used in cosmetic preparation should have varieties of properties like antioxidant, anti-inflammatory, antiseptic, emollient, antiseborrheic, antikerolytic activity and antibacterial etc. Herbal products claim to have less side effects, commonly seen with products containing synthetic agents. Cosmetics are developed to reduce wrinkles, fight acne and to control oil secretion.[1] For various types of skin ailments formulations like skin protective, sunscreen, antiacne, antiwrinkle and anti aging are designed using varieties of materials, either natural or synthetic. 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, anti-wrinkle and anti-aging are designed using varieties of materials, either natural or synthetic.[2]

The term cosmetic derived from Greek word cosmetics which means pertaining to cosmetics or beautifying substance.

These cosmetics are used for 2 uses:

1. The preservation, restoration or bestowing of bodily beauty.
2. The surgical correction of disfigured physical defect.

Cosmeceuticals represent the union of cosmetics and pharmaceuticals. Examples of products typically labelled as cosmeceuticals include anti-aging creams and moisturizers. Cosmetics in ayurveda defined as *varyna*, *Twakdohhargunas*. Recently ministry of AYUSH, Govt of India approved after approved after recommendation of ASUTAB “Saundryaposhak

categories under the drug and cosmetic act 1940 and there under rule 1945.

In today's world the following popular cosmetic preparation used by the modern society eg: creams, lotion, gel, oil, soap, shampoo, hair colour and dye etc.[3].

In the modern cosmaceuticals the cosmetic preparation are basically divided into following 3 categories as

1. Liquid: Hair oil, body oil, lotions, moisturizers, shampoo, conditioner, cleansing milk, mouth wash deodorant, spray, etc.
2. Semisolid: creams, ointment, paste etc.

Herbal Cosmetic products were once the sole domain of film personalities and stage actors. The use of cosmetics in those eras was restricted to the purpose of creating a dramatic effect. The hair care cosmetics which were an insignificant product until a few years back emerged as the most essential fashion accessory since the nineties. The hair colour market is dominated by cosmetic companies mostly marketing chemical based colour. However, with the passage of time, women started using cosmetics to highly their facial features as well. In India beetroot was used to redden the cheeks, while in Western countries, certain chemicals were used to darken the hair. In India beetroot was used to redden the cheeks, while in Western countries, certain chemicals were used to darken the hair. Finally, because of the world-wide demand for make-up for the average person, cosmetics finally became available for sale to the common man.

II MATERIALS AND METHODS

SYZYGIUM SAMARANGENSE:

Syzygium samarangense is a species of flowering plant in the family Myrtaceae, native to an area that includes the Greater Sunda Islands, Malay Peninsula and the Andaman and Nicobar Islands, but introduced in prehistoric times to a wider area and now widely cultivated in the tropics. Common names in English include wax apple Java apple, Semarang rose-apple and wax jambu.



CURCUMA LONGA:

Turmeric is a flowering plant, *Curcuma longa* of the ginger family, Zingiberaceae, the roots

of which are used in cooking. The plant is a perennial, rhizomatous, herbaceous plant native to the Indian subcontinent and Southeast Asia. The rhizomes are used fresh or boiled in water and dried, after which they are ground into a deep orange-yellow powder commonly used as a coloring and flavoring agent.



CARICA PAPAYA:

Carica papaya, the widely cultivated papaya (also called papaw or pawpaw), a tropical fruit plant. For the mountain papaya of South America, see Mountain papaya. For the Eastern North American tree called "pawpaw", see *Asimina triloba*. For other uses, see Papaya. Not to be confused with *Chaenomeles speciosa* or *Pseudocydonia chinensis* (Chinese quince), which like *Carica papaya* are sometimes called mugua.



AZADIRACHTA INDICA:

Azadirachta indica, commonly known as neem, nimt tree or Indian lilac, is a tree in the mahogany family *Meliaceae*. It is one of two species in the genus *Azadirachta*, and is native to the Indian subcontinent and most of the countries in Africa. It is typically grown in tropical and semi-tropical regions. Its fruits and seeds are the source of neem oil.



ANNONA RETICULATA:

Annona reticulata is a small deciduous or semi-evergreen tree in the plant family Annonaceae and part of

the Annonas group. It is best known for its fruit, called custard apple, a common name shared with fruits of several other species in the same genus: A. cherimola and A. squamosa. Its common names include wild sweetsop, soursop and bullock's heart. The fruit is sweet and useful in preparation of desserts, but is generally less popular for eating than that of A. cherimola.



FORMULATION OF POLY HERBAL FACE CREAM:

Oil in water (O/W) emulsion-based cream (semisolid formulation) was formulated. The emulsifier (stearic acid) and other soluble components were dissolved in the oil phase (part A) and heated to 75°C. The preservative and other water-soluble components (methyl paraben, propyl paraben, potassium hydroxide and glycerine) were dissolved in the aqueous phase (phase B) and heated to 75°C. After heating, the aqueous phase was added in portions to the oil phase with continuous stirring until cooling of the emulsifier took place.

FORMULATION POLY HERBAL FACE CREAM:

S. No	Ingredients	F1	F2	F3	F4	F5
1	Stearic acid	5g	5g	5g	5g	5g
2	Potassium hydroxide	120mg	120mg	120mg	120mg	120mg
3	Methyl paraben	0.02	0.02	0.02	0.02	0.02
4	Bees wax	3.5g	3.5g	3.5g	3.5g	3.5g
5	Rose water (pure)	10mL	10mL	10mL	10mL	10mL
6	Water apple (leaf)	5mL	-	-	-	-
7	Turmeric	-	5mL	-	-	-
8	Papaya (leaf)	-	-	5mL	-	-
9	Neem	-	-	-	5mL	-
12	Custard apple	-	-	-	-	5ML

EVALUATION OF HERBAL FACE CREAM:

pH: The pH meter was calibrated and measured the pH by placing in the beaker containing 20mg of cream.

Viscosity: Viscosity of the formulation was determined by Brookfield viscometer at 100rpm at 27°C, using spindle no 7.

Spreadability test: 500 mg of cream was sandwiched between 2 slides. A weight of 100g was placed on upper slide. The weight was removed and extra formulation was scrapped off the lower slide was fixed on board of apparatus and upper slide was fixed with non flexible string on which 20g load was applied. Time taken by upper slide to slip off was noted down.

Dye test: The scarlet red dye is mixed with the cream. Place a drop of cream on microscope slide

covers it with a cover slip, and examines it under a microscope. If the disperse globules appear red and ground colorless. Cream is o/w type. The reverse condition occurs in w/o type cream i.e, the disperse globules appear colorless in their ground.

Homogeneity: The formulations were tested for the homogeneity by visual appearance and by touch.

Patch test: About 1-3 gm of material to be tested was placed on a piece of fabric or funnel and applied to the sensitive part of skin e.g. skin behind ears. Cosmetics to be tested were applied to an area of 1 sq.m of the skin. Control patches (of similar cosmetic of known brand) were also applied. The site of patch is inspected after 24hrs. As there was no reaction the test was repeated three times. As no

reaction was observed on third application, the person may be taken as not hypertensive.

Appearance:The appearance of cream was judged by its color, pearlscence and roughness and graded.

After feel: Emolliency, slipperiness and amount of residue left after the application of fixed amount of cream was checked.

Type of smear: After application of cream , the type of film or smear formed on the skin were cheked.

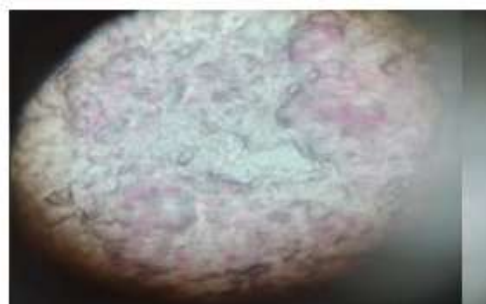
Removal: The case of removal of the cream applied was examined by washing the applied part with tap water.

Irritancy test: Mark an area (1 sq.m) on the left hand dorsal surface . the cream was applied to specified ares and time was noted. Irritancy, erythema,edema, was checked if any for regular intervals up to 24 hrs and reported.

SKIN IRRITANCY TEST:



DAY TEST:



Formulation	Appearance	Homogeneity	Viscosity	Patch test
F1	Good	Good	1690	Not found
F2	Good	Good	1690	Not found
F3	Good	Good	1690	Not found
F4	Good	Good	1690	Not found

Accelerated stability testing: Accelerated stability testing of prepared formulations was conducted for 2 most stable formulations at room temperature, studied for 7days . they were formulation number 4 and 5 at 40C for 20 days.the formulations were kept both at room and elevated temperature and observed on 0th,5th,10th,15thand 20th day.

III RESULT

The poly herbal cream was prepared by using the fruit and leaves of syzygium samarangese, curcuma longa, Azadiracta indica, Carica papaya,Annona reticulate extracted by soxhlet method using ethanol as solvent, and the extracted mixtures were used and formulated by using 5different formulation named F1,F2,F3,F4and F5.

F5	Good	Good	1690	Not found
----	------	------	------	-----------

Formulation	pH	Spreadability test	Patch test	Cream stability
F1	7	Easy spreadable	Not Found	Good
F2	7	Easy spreadable	Not Found	Good
F3	7	Easy spreadable	Not Found	Good
F4	7	Easy spreadable	Not Found	Good
F5	7	Easy spreadable	Not Found	Good

IV. SUMMARY AND CONCLUSION

The polyherbal face cream of crude drugs with the best properties and having nutritional value was to be prepared by simple methods and less equipment are required.

Further studies are required for this polyherbal cream. It was found that this type of formulation of polyherbal cream was not prepared earlier oil in water emulsion based cream was formulated by using natural ingredients and was evaluated by combining all these ingredients it can concluded that the cream can be used as multi Purpose cream.

REFERENCES

- [1]. Shridevi Kuver, Gautam Palshikar:- Formulation And Evaluation Of Herbalantiacne Facewash; International Journal Of Phytotherapy Research; ISSN 2278 – 5701;
- [2]. Pal Arti, Soni Manish, Patidar Kalpana:- Formulation and Evaluation of Poly Herbal Cream; Formulation and Evaluation of Poly Herbal Cream; International Journal of Pharmaceutical & Biological Archives 2014; 5(4): 67 – 71;
- [3]. Abhay Prakash Mishra¹, Sarla Saklani, Luigi Milella, Priyanka Tiwari:-Formulation and evaluation of herbal antioxidant face cream of Nardostachys jatamansi collected from Indian Himalayan region; Asian Pac J Trop Biomed 2014; 4(Suppl 2): S679-S682;
- [4]. Padmaja and N. B. L. Prasad; Pomegranate (Punica granatum L.) :-Peel Extract as a Source of Natural Antioxidant; Journal of Food Science and Engineering 1 (20.11) 171-182;
- [5]. Manisha Yogesh Sonalkar, Sachin Annasaheb Nitave:-Formulation and evaluation of polyherbal cosmetic; Wjppsn 5 (2013):83-88;
- [6]. Kotta Kranthi Kumar, K.Sasikanth, M.Sabareesh, N.Dorababu:-Formulation And Evaluation of Diacerein Cream; Asian J Pharm Clin Res, Vol 4, Issue 2, 2011, 9398;
- [7]. Ivana Binic, 1 Viktor Lazarevic, Milanka L jubenovic, Jelena Mojsa, and Dusan Sokolovic3:- Skin Ageing: Natural Weapons and Strategies, Evidence-Based Complementary and Alternative Medicine, Volume 2013, Article ID 827248, 10 pages;
- [8]. Surya Prabha. Matangi, Santhosh Aruna. Mamidi, Gulshan. MD, S.T.V.Raghavamma, Rama Rao Nadendla.:-Formulation and Evaluation of Anti Aging Poly Herbal Cream; Int. J. Pharm. Sci. Rev. Res., 24(2), Jan – Feb 2014; n° 22, 133-136;
- [9]. Yadav N And Yadav R:- Preparation And Evaluation Of Herbal Face Pack; International Journal of Recent Scientific Research; Vol. 6, Issue, 5, pp.4334-4337, May, 2015;
- [10]. Amit Madan¹, Abhishek Arun, Sudeep Verma:-A Pilot study to evaluate safety and efficacy of Papen glow (Herbal Face-Pack) in healthy human subjects; International Journal of Advanced Research (2014), Volume 2, Issue 4, 356-359;
- [11]. S Sujith Nair, Molly Mathew & K Sreena:- Evaluation of Skin Irritation of Herbal Antioxidant Cream; Asian Journal of Biochemical and Pharmaceutical Research; Issue 3 (Vol. 2) 2012;