

**FORMULATION AND EVALUATION OF HERBAL CREAM OF NYCTANTHES****Sakshi N. Ghotekar<sup>\*1</sup>, Kundan J. Tiwari<sup>2</sup> and Dr. Yogesh V. Ushir<sup>3</sup>**<sup>1</sup> Student, SMBT Institute of Diploma Pharmacy, Nandi-hills Dhamangaon, Nashik, India, 422403.<sup>2</sup> Professor, SMBT Institute of Diploma Pharmacy, Nandi-hills Dhamangaon, Nashik, India, 422403.<sup>3</sup> Principal, SMBT Institute of Diploma Pharmacy, Nandi-hills Dhamangaon, Nashik, India, 422403.**\*Corresponding Author: Sakshi N. Ghotekar**

Student, SMBT Institute of Diploma Pharmacy, Nandi-hills Dhamangaon, Nashik, India, 422403.

Article Received on 26/02/2020

Article Revised on 17/03/2020

Article Accepted on 06/04/2020

**ABSTRACT**

*Nyctanthes arbortristis* (N. Arbortristis) is one of the most useful traditional medicinal plants in India. It is distributed widely in sub-Himalayan regions and Southwards to Godavari. Each part of the plant has some important medicinal value and is thus commercially exploitable. It is now considered as a valuable source of several unique products for the medicines against various diseases and also for the development of some industrial products. Phytochemicals like flavanol glycoside, oleanic acid, essential oils, tannic acid, carotene, friedeline, lupeol, glucose, benzoic acid have been reported for significant, hepatoprotective, antileishmaniasis, antiviral, antifungal, antipyretic, antihistaminic, antimalarial, antibacterial, anti-inflammatory, antioxidant activities. Further investigations exploring possible use of these phytochemicals as pharmacological agents are warranted. The various standardization parameters like macroscopy, microscopy, ash value, physicochemical and phytochemical screening, fluorescence analysis, bitterness value, foaming index, determination of pH, determination of fat and resin content, determination of pesticide residue and heavy metal analysis were performed to establish its quality standards.

**KEYWORDS:** Cream, Crude drug, *Nyctanthes arbortristis*, Phytochemicals.**INTRODUCTION**

Now, a day's herbal extracts are used in the cosmetics preparation for augmenting beautiful and attractiveness. Herbal cosmetic are classified on the basis of dosage form like cream, powder, soaps, solution 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 semisolid emulsion intended for application to the skin or mucus membrane.<sup>[1,2]</sup>

Depending on the preparation of water grase, cream can be water miscible and washed away easily or be thick and sticky. it is perhaps the comment prescribe topical medicament as it is less oily, messy and sticky, most patient find it more user friendly.<sup>[3,4]</sup>

Cosmetic product are used to protect skin against exogenous and endogenous harmful agent and improve the beauty and attractiveness of skin cosmetics are not only developing an attractiveness external appearance but towards achieving long life of good health by reducing skin disorder. the herbal ingredients present in skin, integrity of skin and texture, moisturizing maintaining elasticity of skin by reduction of collagen and photo protection etc. this character of collagen and photo protection etc.<sup>[1,5]</sup>

This character of cosmetics is due to presence of ingredient in the skin care formulation, because it help to reduce the production of free radicals in skin and mange the skin properties for long time the cosmetics product are the best choice to reduce skin disorder such as skin again, skin, working hyper pigmentation and rough skin texture etc. the usages' of synthetic product become very harmful from long time for the youth as well as our environment various synthetic compound chemicals due and their derivative proved to causes various skin disease having numerous side effect. The value of herbs in the cosmetically 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 the basic idea of skin care cosmetics lies deep in the Rig-Veda, yajurveda, ayurveda, unani and homeopathy system of medicine these are herb should have variety of property like antioxidant, anti-inflammatory antiseptic, emollient, anti-seborrahatic, antikeralytic activity and antibacterial etc. the world herbal is symbol of safety in contrast to the synthetic one which has adverse effect on human health. Nyctance arbortristis Linn belonging to family oleaceae is a mutholgal plant having high medical value in ayurveda. It is commonly known as harbinger in Hindi parijatka in Sanskrit and night jasmine in English. it is distributed widely in sub-Himalayan regions and south

words to Godavari and is pronominal native to southern Asia. The geographical distribution of the plant extend from northern Pakistan and southern Nepal through northern India and south east to Thailand and also in other part of the world.<sup>[6,7,8]</sup>

- The plant; leaves are having immense medical value and are the thus commercially exploitable.
- It is popular garden shrub that grows to height of 3.0-4.5m long and holds an important role in condition related to fever and inflammation. Its leaves are rough with hairy surface opposite.
- It is also used as anti-emetic, anti-amoebic, anti-trypasomal and larvicidal.
- The leaves are revealed the presence triterpenoid iridoid, glucoside and iridoid glucoside olanolic acid, tannic acid, nyctanthic acid, methyl salicylate, amphous glycoside, glucose, mannitol, fructose, ascorbic acid, D-mannitol, benzoic acid.
- *Nyctanthes arboristris* also called as the tree of sorrow because the flower loss their brightness during their day time. The scientific name *arboristris* also mean sod tree, the flower can be used source of yellow dye for clothing.<sup>[1]</sup>

#### OBJECTIVE

The objective of this research work was to formulate the cream which does not causes any side effect or adverse reaction. The cream also act as anti inflammatory analgesic expert in a day to day life. By removing aging sings. It also posses nutritional value which provide nutrient to the skin.

#### Morphology or Taxonomical classification<sup>[1]</sup>

Kingdom	: Plant
Division	: Mangoliophyta
Class	: Mangoliopsida
Odour	: Lamiales
Family	: Oleaceae
Genus	: <i>Nyctanthes</i>
Species	: <i>Arbor-Tristis</i>

Ingrident	F1	F2	F3	F4	F5	F6
Extract	1	2	3	4	5	6
Stearic acid	13	10	11	12	18	16
Cetyl alcohol	2	3	4	4	3	4
Almond oil	4	4	4	4	4	4
glycerin	3	3	3	3	3	3
Methyl parabeen	0.02	0.02	0.02	0.02	0.02	0.02
triethanolamine	qs	qs	qs	qs	qs	qs
Water qs.100	qs	qs	qs	qs	qs	qs

#### • Evaluation of cream<sup>[1]</sup>

##### ➤ pH of cream

The ph meter was calibrated using standard buffer solution. about 0.5 g of the cream was weighted and dissolve in 50.0 ml of distilled water and its ph was measured.

Binomial name: *Nyctanthes arbor-tristis*

#### Method of preparation

##### • Preparation of alcoholic extract of crude drug

All above mentioned powder crude drug of 5 mg were taken into the conical flask and then 100 ml of ethanol was added to it. Then the conical flask was capped with aluminium foil. Then this mixture was placed for maceration for 5 days.

##### • Preparation of oil phase

Stearic acid 2.2g % , cetyl alcohol 0.8 % , methyl paraben 0.02 % was then taken into one porcelain dish and this mixture was melted at 70° C.

##### • Preparation of aqueous phase

Alcoholic extract of crude drug (2 -3%) , glycerin 0.6% , water 10% were taken into another porcelain dish and heated this mixture at 70° C.

##### • Addition of aqueous phase to oily phase

The aqueous phase was added to the oily phase with continous stirring at 70° C. Now, once the transfer was completed it was allow to come at room temperature, all the while being stirred perfume (0.5%) as added at least just before the finish product was transfer to suitable container. Then cream was evaluated for various physical parameters.

##### • Cream formulation

Oil in water (o/w) emulsion based cream was formulated.

The emulsifier (stearic acid) and other oil soluble component cetyl alcohol, almond oil, were dissolved in the oil phase {PART-A} and heated to 70° C. the preservative and other water soluble components methyl parabeen, triethalomine, glycerin and extract of *nyctanthes arboristris* was dissolved in the aqueous phase was added in portion to the oil phase with continuous stirring until cooling of emulsifier took place.

##### ➤ Dye test

In this test an emulsion is mixed with a water soluble dye and observed under the microscope. If the continues phase appear red, it means that the emulsion is o/w type as the water is in the external phase and the dye will dissolve in it to give color if the scattered globules appear red and continuous phase colorless then it w/o

type. Similarly, if an oil soluble dye is phase appears red, then it is w/o emulsion.

#### ➤ No side effect

The synthetic beauty products can irritate your skin, and cause pimple, they might block your pores and make your skin dry or oily. With natural cosmetics, one need not worry about these, the natural ingredient used assure no side effect one can apply them any time anywhere for ex: herbal cosmetic are free from parabens that are the most widely used preservative in cosmetic and can penetrate the skin and are suspended of interfering with hormone function.

#### ➤ Medicinal use of *Nyctanthes arborist*

Some of the medicinal attributes of various part of plant have been summarized in table. However apart from these uses they are several reports on pharmacological action of *N. arborist*. Leaves are used as anthlaminics, antibacterial, antioxidant, arthritis, asthma, ringworm.

### RESULT AND DISCUSSION

#### ➤ Appearance

The cream prepared was found to be of a yellowish green color and had pleasant odor.

#### ➤ pH

The pH of cream was found to be 6.1, which is acidic value.

#### ➤ Robustness

It was found that the cream was easily spreadable and moisturizes the skin surface of human volunteer.

#### ➤ Emolliency

After observation, it was found that cream not left residue on skin surface after application.

### CONCLUSION

The cream of crude drug with the best properties and having nutritional value was to be prepared by simple method and less equipment are required. The prepared cream also has antioxidant and antibacterial activity due to this it retased aging sings and pimple formation on the face. It was found that this type of formulation of the herbal cream was not prepared earlier.

### ACKNOWLEDGEMENT

It is a moment of gratification and pride to look back with a sense of contentment at the long travelled path, to be able to recapture some of the fine moments, to be able to thank Dr. Y.V.Ushir Principal SMBT IODP for your valuable guidance and Support also I thankful to SMBT Sevabhavi trust who supported us for completion of this research.

### REFERENCES

1. Ashwini S. Dhase, Somishwar S. Khadbadi and Shweta S. Saboo, Formulation and Evaluation of

- Vanishing Herbal Cream of Crude Drugs, *American Journal of Ethnomedicine*, 2014; 1(5): 313-318.
2. Pushpendra Kumar Jain, Arti Pandey, The wonder of Ayurvedic medicine - *Nyctanthes arbortristis*, *International Journal of Herbal Medicine*, 2016; 4(4): 09-17.
  3. Jadhav Santosh, Patil Manojkumar, A review on: *Nyctanthes arbortristis* Linn. Rejuvenating herbs, *International Journal of Research in Pharmacy and Pharmaceutical Sciences*, 2016; 1(1): 54-62.
  4. Tanesh Sahu, Tarun Patel, Sagar Sahu, Bina Gidwani, Skin Cream as Topical Drug Delivery System: A Review, *J Pharm Biol Sci*, 2016; 4(5): 149-154.
  5. Himaja. N, Formulation and Evaluation of Herbal Cream from *Azadirachta Indica* Ethanolic Extract, *International Journal of Research in Drug & Pharmaceutical Science*, 2017; 1(1): 23-26.
  6. Arun Rasheed, S. Neelufar Shama, S. Mohanalakshmi, V. Ravichandran, Formulation, characterization and in vitro evaluation of herbal sunscreen lotion, *Orient Pharm Exp Med*, 2012; 12: 241-246.
  7. Sujith S Nair, Molly Mathew, Sreena K, Formulation And Evaluation Of Herbal Cream Containing *Curcuma Longa*, *International Journal Of Pharmaceutical And Chemical Sciences*, 2012; 1 (4): 1362-1368.
  8. Jaya Gade, Snehal More, Navin Bhalerao, Formulation and characterization of Herbal Cream containing Fenugreek seed Extract, *International Journal of Scientific and Research Publications*, 2015; 5(10): 1-4.
  9. Kalpesh Chhotlal Ashara, Importance of Titration technique on Preparation and Evaluation of Cold Cream, *Inventi Rapid: Pharm Tech*, 2013; 1(1): 1-2.
  10. Mandeep Singh, Shalini Sharma, Sukhbir Lal Khokra, *et al*, Preparatio Ad Evaluatio Of Herbal Cosmetic Cream, *Pharmacologyonline*, 2: 2011: 1258-1264.
  11. Shivani S, Ansari SH, Zahiruddin S, Rabea Parveen, Ahmad S, Quality Standards of Leaves of *Nyctanthes arbor-tristis* Linn., *Int J Drug Dev & Res*, 2015; 7(3): 4-9.
  12. Harshal Sheth, Sharav Desai, Dhara Patel, *et al*, Formulation and Evaluation of Topical Herbal Cream for Cellulitis, *J Pharm Sci Bioscientific Res*, 2016; 6(4): 584-593.