



Formulation and Evaluation of Herbal Cream containing *Nyctanthes Arbor-tristis*

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Abstract: The aim of this study was formulating and evaluate herbal cosmetic cream for improvement of skin as well as nourishing, moisturizing, lightning. In India, the concept of using herbs for beautification find its origin in tradition medicine literature like Ayurveda. The Herbal cosmetic cream formulation was designed by using extract of *Nyctanthes Arbor-tristis* (night jasmine), *Myristica fragrans* (Nutmeg). Formulated Herbal cream also contain high percentage of vitamin E, it is helpful for treatment of dry skin. Santalum album (red sandalwood) it is useful to treatment of anti-ageing, fights acne, remove scarring. evaluation tests were performed to establish the stability of formulated herbal cream. pH of Herbal cream is 6.5 that is not more acidic not more basic. This semisolid cream has good separability. Formulated cream no visible signs of physical instability such as cracking, creaming phase inversion. Investigated herbal cream showed satisfactory organoleptic physicochemical characteristics. The herbal cream is safe to use was proved and it can be used as provision of a barrier to protect skin.

KEYWORDS: Herbal cosmetics, *Nyctanthes Arbor-tristis*, *Myristica fragrans*, Santalum album.

1. Introduction:

Nyctanthes arbor-tristis is a traditional medicinal plant, which belong to family Oleaceae. The *Nyctanthes arbor-tristis* is a shrub or tree having fragrant flower. The *Nyctanthes arbor-tristis* having various names like Parijat, Night jasmine, Coral jasmine, Harsinghar, Tree of Sadness, Lover's tree, and Queen of Night etc.

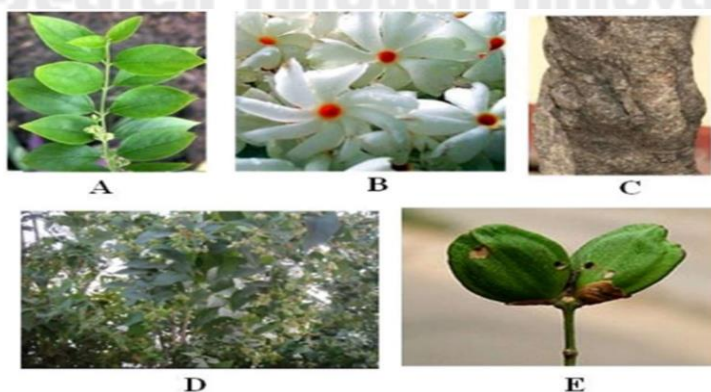


Fig 1: (A) Leaves, (B) Flowers, (C) Bark, (D) Whole Plant, (E) Fruits & Seeds.

Nyctanthes arbor-tristis Linn. (Oleaceae) is popularly known as 'Night Jasmine' or 'Harsinghar' (Hindi) due to the fact that its flowers emit a very strong and pleasant fragrance during the whole night. The flowers start falling after midnight and by the day break, the plant appears dull. The generic name 'Nyctanthus' has been coined from two Greek words 'Nykhta' (Night) and 'anthos' (flower). The specific name '*arbor-tristis*' meaning 'the sad tree' is supposedly derived from dull looks of the tree during daytime.^[1]

1.1 Cream:

Creams are the topical preparations which can be applied on the skin. Creams are defined as "viscous liquid or semi-solid emulsions of either the oil-in-water or water-in-oil type" dosage forms which consistency varies by oil and water.^[5] Creams are used for cosmetic purposes such as cleansing, beautifying, improving appearances, protective or for therapeutic function.

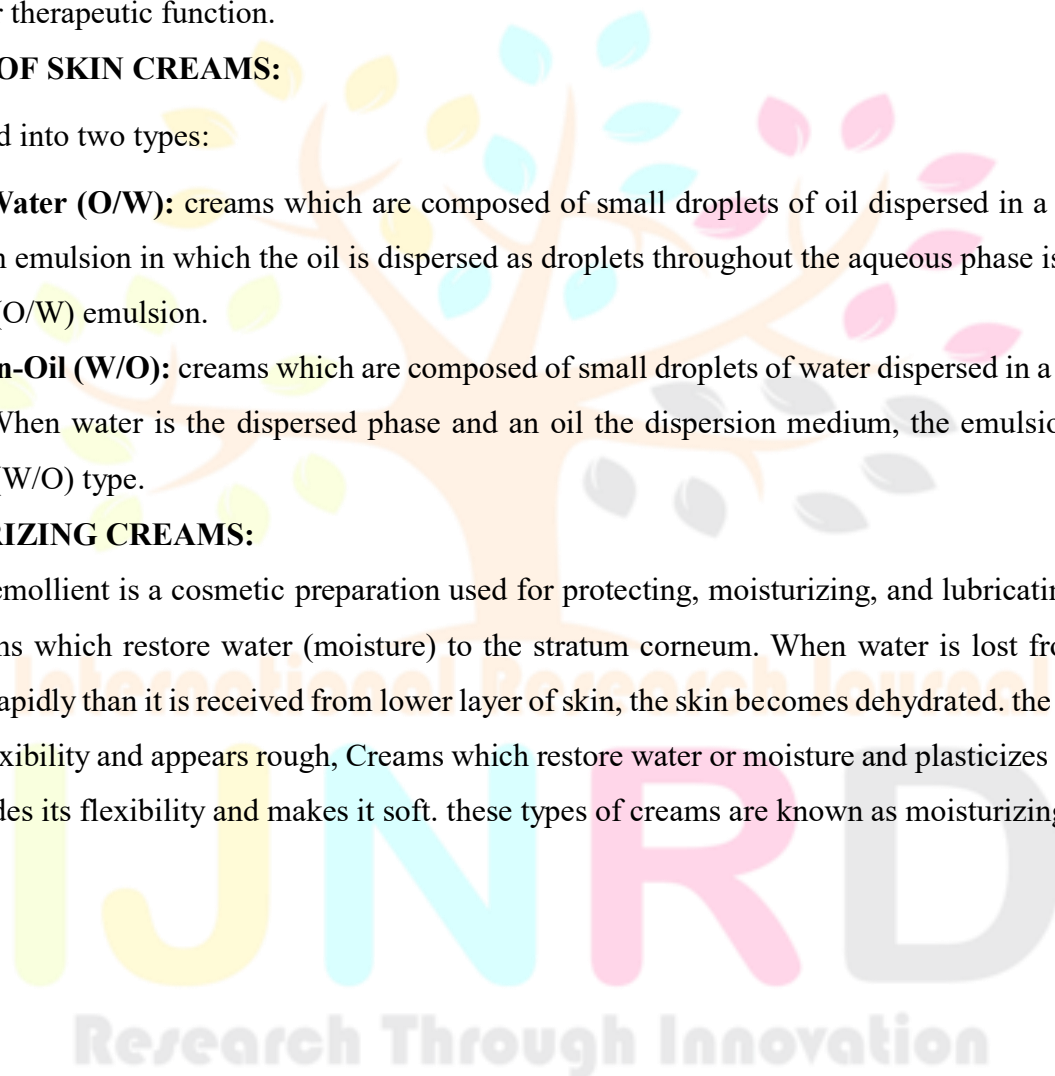
1.1.1 . TYPES OF SKIN CREAMS:

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.

1.2. MOISTURIZING CREAMS:

Moisturizer or emollient is a cosmetic preparation used for protecting, moisturizing, and lubricating the skin. These are creams which restore water (moisture) to the stratum corneum. When water is lost from stratum corneum more rapidly than it is received from lower layer of skin, the skin becomes dehydrated. The dehydrated skin loses its flexibility and appears rough, Creams which restore water or moisture and plasticize the stratum corneum, provides its flexibility and makes it soft. these types of creams are known as moisturizing cream.



PLANT PROFILE:

S.No.	Picture	Ingredients Name	Properties
1.		Night Jasmine Flower	Antioxidants, Antibacterial, Antifungal
2.		Nutmeg (Myristica Fragrans Family Myristicaceae)	Anti-inflammatory properties will help reduce the sight of pimples. Antispots
3.		Red Sandalwood (Santalum album Family Santalaceae)	It is having an essential oil that help to dampen and hydrate the dry and aging skin. It also relieving the irritation and itching for some greasy skin Condition.
4.		Petroleum Jelly	Moisturizer, Relieve dry skin, Including your lips.
5.		Rose water	Helps to the tone the skin. Naturally moisturizing, Hydrating, and colling the face.



6.		Vitamin E	Protect from U.V. radiation, Antioxidant, Antiwrinkles.
7.		Acacia	Thickening agent.

Table 1: List of ingredients with its functional properties used to formulate herbal cream

2.MATERIAL AND MATHOD

➤ MATERIAL:

Flowers were collected from medicinal plant garden of CIP. Rose water, Petroleum jelly, and vitamin E were taken from the lab and other chemicals such as Nutmeg, Red Sandalwood powder is purchased from the shop. All other chemicals used were of suitable and analytical grade.

Experimental work

Preparation of Night jasmine extraction:

Firstly take 5g of accurately weighed night jasmine and dry it. After drying jasmine flower, 0.5g of dried flower is added in 5ml of water and heated on water bath at 100°C up to 2ml extract, filtrate the extract using filter paper.



Fig 2:- Night Jasmine Extract

Preparation of Nutmeg extraction:

Take a nutmeg, grind it equally, then weigh 0.5g of nutmeg powder accurately. Take that weighed 0.5g nutmeg powder and boil it with 5ml of water-on-water bath at 100°C up to 2ml extract, filtrate the extract using filter paper. Take both extract we have formulated, mix them together and boiled until they get concentrated until 2ml.



Fig 3:- Nutmeg Extract

Formulation and preparation:

The emulsifier and oil soluble components (petroleum jelly, vitamin E) were dissolved in oil phase and heated up to 80°-100°C and in other which is water soluble compounds (night jasmine extract, nutmeg extract, rose water) were dissolved and heated up to 80-100°C. There are two phases phase A which is oil soluble and phase B which is water soluble. The aqueous phase is slowly added into oil phase with continue stirring in one direction. Then add a measured amount of sandalwood and stir vigorously until it forms a smooth cream. Then add few drops of rose oil as a fragrance. Then all ingredients are properly mixed. Stop stirring when it seems to be partly solid. [8]

S.No.	Ingredient	Quantity
1.	Vitamin E	1g
2.	Night jasmine flower	0.5g
3.	Nutmeg	0.5g
4.	Red sandalwood	1g
5.	Petroleum jelly	5g
6.	Rose water	5ml
7.	Acacia	1g
8.	Distilled water	q.s

Table 2: Composition of Formulated Cream

Evaluation of cream:**Physical properties:**

Formulated herbal cream was further evaluated by using the following physical parameters:

Color, Odour, Consistency, and state of the formulation.

- a) **Colour:** The colour of the cream was observed by visual examination.
- b) **Odour:** The odour of cream was found to be characteristics.
- c) **Consistency:** The formulation was examined by rubbing cream on hand manually. The cream having smooth consistency. Cream did not leave greasy substances on skin surface after application.
- d) **State:** The state of cream was examined visually. The cream having a semisolid state.

PH of Herbal cream:

The pH of prepared cream is 6.9. PH of formulated cream is determined by using pH paper. The pH between 4.5 to 7 suitable for skin. Due to neutral pH, herbal cream has property of anti-irritant and anti-fungal. ^[3]

Table 3: Thermal stability and pH determination

Sr. No.	Test	Results
1	Thermal stability	Stable, no oil separation
2	PH	6.5

Determination of Wash ability: The removal of the cream applied on skin was done by washing under tap water with minimal force to remove the cream.

Table 4: washability test

Sr. No.	Parameter	Observation
1	Washability	

Determination of homogeneity:

The formulation were tested for the homogeneity by visual appearance and touch. ^[2]

Determination of Irritancy:

On the dorsal surface of the left hand, mark a square centimeter. The designated area was covered with the cream, and the time was recorded. For a full day, any erythema, edema, or irritability was noted and recorded at regular intervals ^[6]

Table 5: Irritancy Test

Sr. No.	Irritancy Test	Observation
1.	Irritation	No
2.	Edema	No
3.	Redness	No
4.	Swelling	No

Result:

S. no.	Parameters	Results
1.	Colour	Reddish brown
2.	Odour	Pleasant
3.	Ph	6.5
4.	Irritation	No
5.	Washability	Easily wash

Table no. 6: Results of Herbal Cream**Conclusion:**

The herbal cosmetic products are best option to reduce skin problems like pigmentation, skin wrinkling, skin aging and rough skin texture. The advantages of herbal creams are lower cost, side effect free, environmentally friendly, safe to use. It gives smoothing effect as well as moisturizing effect. It gives fair touch to skin. Herbal cream is designed to improve and maintain the skin barrier function and help to prevent dry skin. It helps in holding on moisture for long time.

Night jasmine helps in protecting skin damage from external environmental condition. Nutmeg help in protect anti-oxidant. Vit. E which helps in protect U.V. radiation.

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