



# IJPPR

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH  
An official Publication of Human Journals

ISSN 2349-7203




Human Journals

**Research Article**


March 2023 Vol.:26, Issue:4

© All rights are reserved by Arun Kumar et al.

## Formulation and Evaluation of Multi-Purpose Face Cream with Almond Oil and Neem



**IJPPR**  
INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH  
An official Publication of Human Journals



ISSN 2349-7203

**Sashin Kumar<sup>1</sup>, Dilshad Khan<sup>2</sup>, Anurag verma<sup>1</sup>, Omprakash Goshain<sup>2</sup>, Lalit Singh<sup>3</sup>, Arun Kumar<sup>4\*</sup>**

*Future institute of Pharmacy, Bareilly (U.P), India  
Research scholar<sup>4</sup>, Teerthanker Mahaveer College of Pharmacy (TMU), Moradabad, India.*

**Submitted:** 25 February 2023  
**Accepted:** 02 March 2023  
**Published:** 30 March 2023

**Keywords:** Neem, Night Jasmine, Beeswax, Almond oil, Fusion method

### ABSTRACT

**Aim & Objective:-** Cosmetics made from either natural or synthetic components are widely used to enhance the fineness in a variety of forms around the world. *Azadirachta indica* and *Nyctanthes arbor-tristis* are medicinal plants that have been used for centuries in various herbal medicinal systems such as Ayurvedic and Homeopathic. *Azadirachta indica* and *Nyctanthes arbor-tristis* dried leaves have antibacterial, anti-inflammatory, and analgesic properties, anti-inflammatory effects which are related to the presence of numerous natural compounds. The current study focuses on the formulation of herbal creams and their evaluation using various evaluation criteria.



HUMAN JOURNALS

[www.ijppr.humanjournals.com](http://www.ijppr.humanjournals.com)

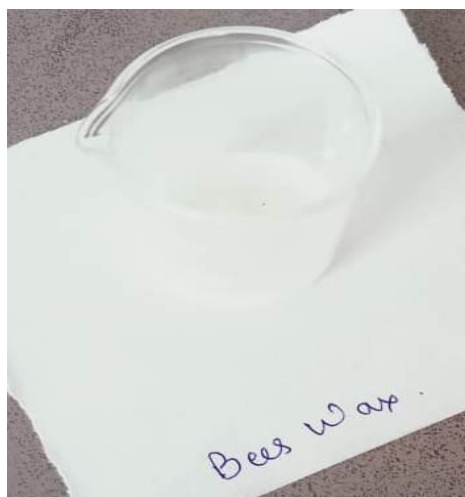
## INTRODUCTION

Cream formulations were semisolid formulations designed for topical use. The cream formulations were created by combining various herbal extracts (Almond oil, neem, and Night jasmeeen) and excipients. Beautifying roducts are used to protect the skin from various endogenous and exogenous harmful agents, as well as to enhance the beauty and glow of the skin. Cosmetics are not only used to improve one's external appearance; they are also used to improve one's health by reducing skin disorders. Cosmetics designed for skin care nourish the skin and keep it healthy. Herbal cream is a semisolid formulation designed for topical use. *Nyctanthes arbor-tristis* is a traditional medicinal plant in the Oleaceae family.

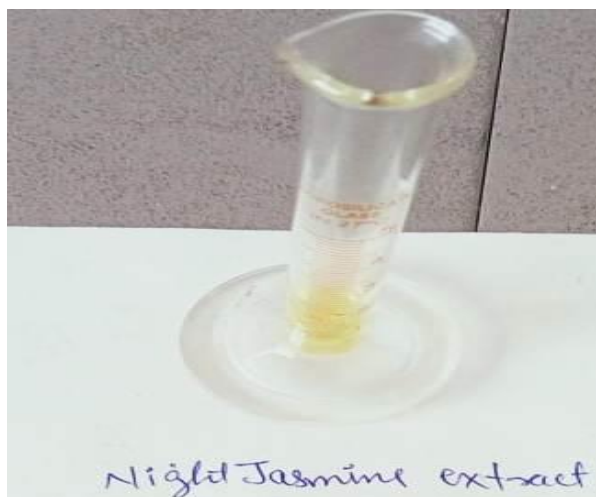
*Azadirachta indica* are commonly known as neem, nimtree or Indian lilac(family-Meliaceae). It is typically grown in tropical and semi-tropical regions. Its fruits and seeds are the source of neem oil. *Azadirachta indica* have anti-allergic properties, anti –dematic activity , improve immunity and also used to reduce blood sugar scale.

The young leaves are gathered, completely dried, and then ground into a powder using a mixer. The powder that had produced was filtered through the sieve. It only takes a quick maceration procedure to get the extract. An extraction method used at ambient temperature was called maceration. Ethyl alcohol Was added to the powdered *Nyctanthes arbor-tristis* herb leaves, which were then agitated constantly using a mechanical shaker. Three days later, the concentrated extract was collected and filtered. The powder that was developed was filtered through the sieve. The extract was produced using a straightforward maceration procedure.

Almond oil has excellent emollient properties that help the skin balance water loss and moisture absorption, relieve irritation, inflammation, and itch and is highly lubricating. Secondary metabolites present in the plants taken will support skin strength, texture, and integrity, as well as moisturizing and maintenance skin elasticity. Thus, the presence of herbal ingredients in skin membrane care formulations aids in the reduction of free radicals in the skin and their long-term maintenance. Active ingredients delay skin aging by reducing wrinkles, and antioxidant properties protect against UV radiation.



**Figure.1**



**Figure.2**

## **MATERIAL AND METHODS**

### **a. Preparation of Extracts-**

#### **• Extraction of Almond oil**

Take about 375gm of almonds. Soak in water for (8 hr) Then almonds are swollen and soft. Blend them into a paste using a blender (by adding required amount of water). Strain the paste by using a sieve (strain the paste twice with water to extract more almond milk). Pour the almond milk into a pot. Place the pot on heat to evaporate water with continuous stirrer. Our almond oil is already forming. Now turn off the heat when the water has been exiled. Place the cheesecloth over a strainer and strain to purify almond oil. Use hands to squeeze out the almond oil from the paste. Keep doing this until squeeze all the paste. After that use a finer strainer to have a clean oil. In the last we get about 2 spoons feed of almond oil.

#### **• Night Jasmine extract**

Pick some dry and fresh jasmine flowers (pick flowers in late evening in basket and left for overnight). The following morning, jasmine blooms. They need to dry for an hour on a paper towel with a fan. Get a dry, clean glass jar, then fill it up with blossomed jasmynes. With one cup of flowers, measure out about 14 spoons of carrier oil (coconut oil). The amount of fragrance obtained will increase when the carrier is reduced. compress the bloom gently into the oil using a spoon to ensure that it is fully submerged. Make sure the jasmine is in the jar's remaining space, which should be 1-2 inches. After one week, cover the container and expose it to some sunlight. Every day, wipe out the condensation on the lid. Always shake the bottle

and keep it away from moisture. Use a mesh or filter to drain the oil after a week. Check the oil's fragrance strength by giving it a whiff. If you prefer a stronger scent, add more fresh flowers to the extracted oil, close the lid, and add the flowers to the oil. Repeat the process, securing the lid, setting it in a bright area, and waiting until.

- **Neem leaves extraction**

Prepare neem extract by using fresh leaves. Take the leaves off the stem. Wash the leaves with cold water. Rinse it with distillate water then drain water from the leaves. After draining the water, put the leaves into a blender and blend (without adding aqua). We get about 18gm of crushed neem leafage. Take a clean sterilized glass jar and put the crushed neem into the jar. Add 25gm of distilled water to the neem and also add 40gm propylene glycol and 35gm ethanol. Seal the jar airtight and store at room temperature for 1 week. Shake jar everyday at least once a day. Then filter the extract through a mesh. After extraction check the pH of the substance (comes at around pH 6 which is good). Pour the extract into a clean glass bottle to store.



**Table 1: Ingredients used for the formulation of Herbal Cream**

Sr. No.	Ingredients	Chemical Constituents	Process of Extraction/ Collection of Raw Material
1.	Almond Oil	Almonds contain lipids (approximately 50%), proteins (approximately 25%), and carbohydrates (approximately 20%), as well as lower moisture content and a variety of minor bioactive compounds.	Sweet Almond Oil, 150 g
2.	Night Jasmine extract	Glycosides are found in the leaves and seeds. Mannitol, benzoic acid, astragal, nicotiflorin, oleanolic acid, nyctanthic acid friedelin, and lupeol are among the other constituents reported from the leaves.	<b>Maceration-</b> Maceration is an extraction technique that is performed at room temperature. The powdered herbal leaves of <i>Nyctanthes arbor-tristis</i> are then immersed in alcohol and shaken continuously with a mechanical shaker. The concentrated extract was collected and filtered after three days.
3.	Neem leaves extract	Nimbin, nimbanene, nimbandiol, nimbolide, ascorbic acid, n-hexacosanol and amino acid, 17-hydroxyazadiradione, and nimbiol are the chemical constituents found in neem leaves.	<b>Extraction-</b> Neem leaves were gathered. After that, the leaves were dried for four days before being ground into a coarse powder with a mixer grinder and passed through sieve number 22. The extraction took 3 hours and used 100 gms of plant material and 500 ml of ethanol.
4.	Bees wax	Hydrocarbons (approximately 12%–16%), free fatty acids (approximately 12%–14%), free fatty alcohols.	Gift sample from DNV Pharmaceutical PVT LTD Haridwar.

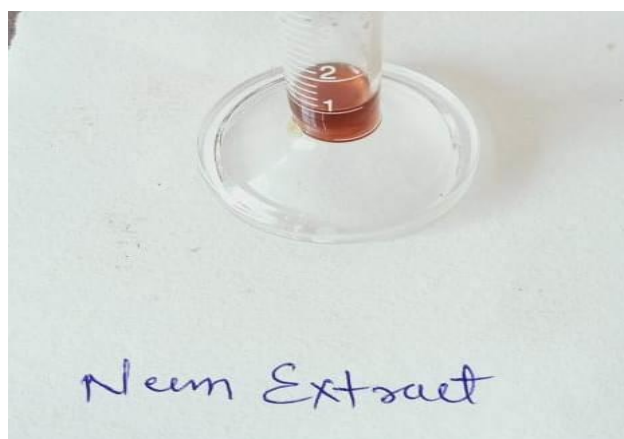


Figure.3

- **Method for preparation of Herbal Cream**

Dissolve the required amount of Borax in sufficient water and prepare a solution by heating on a water bath.

Add the required amount of night jasmine and neem extract to the above solution. [First Solution]

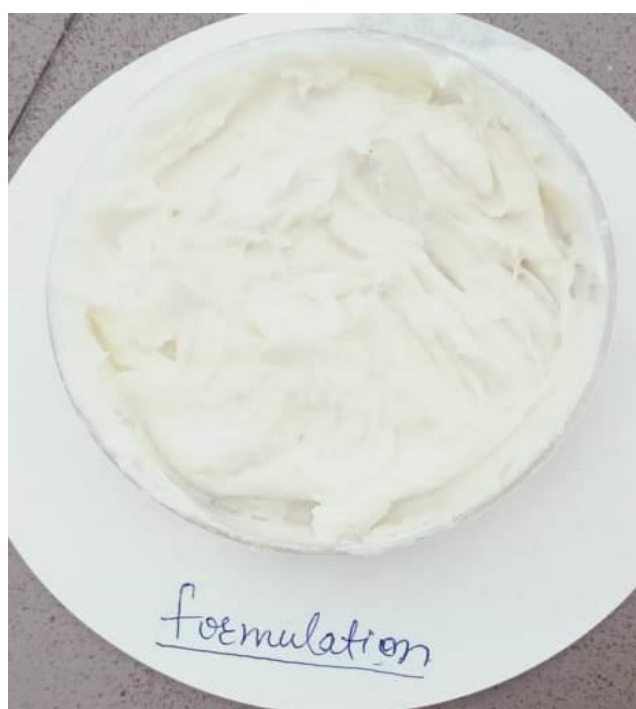
Weigh accurately almond oil and mix it with beeswax in a china dish to make a proper solution. [Solution No. 2]

Drop Solution 1 into Solution 2 one at a time. When both phases are thoroughly combined, add propyl paraben as a preservative.

The formulated Herbal Cream was kept aside for about an hour in a cool and dry place that was not exposed to sunlight until it were perfectly set, and it was used 48 hours later after being kept at room temperature for stability and analytical testing.

**Table 2: Composition of Herbal Cream**

Sr. No.	Ingredients	Quantity taken	Role
1.	Almond Oil	15ml	Emollient
2.	Night Jasmine extract	1.5mL	Anti-inflammatory
3.	Neem leaves extract	0.6mL	Antibacterial
4.	Beeswax	3.5gm	Humectant
5.	Borax	0.18gm	Emulsifier
6.	Methyl Paraben	0.04gm	Preservative
7.	Water	7mL	Vehicle
8.	Perfume	q.s.	Fragrance



**Figure.4**

**Evaluation of herbal Cream:**

The evaluation of herbal cream was the following.

## 1. Physical evaluation-

The formulation of the herbal cream was further evaluated using the following physical parameters: color, odor, consistency, and formulation state.

a) **Colour:** Eyesight examination was used to determine the color of the cream.

b) **Odour:** Cream odor was discovered to be a characteristic.

c) **Consistency:** The formulation was tested by manually rubbing cream on the hand. The cream has a smooth texture. After application, the cream did not leave any greasy substances on the skin's surface.

d) **Condition:** The cream's condition was visually examined. The cream has a semisolid consistency.

e) **pH-**A digital pH meter was used to measure the pH of the prepared herbal cream. The cream solution was made with 100 ml of distilled water and set aside for 2 hours.

## 2. Spreadability-

The spread of formulated cream was measured by sandwiching a sample between two slides and compressing it to a uniform thickness by applying a specific weight for a specific time. Spreadability was determined by the time required to separate the two slides.

Spreadability was calculated by the following formula:

### Formula-

$$S=M*L/T$$

Where,

S= Spreadability

M= Weight tide to the upper slide

L= Length of glass slide

T= Time taken to separate the slides.



### 3. Wash ability-

The preparation was applied on the skin and then ease extends of washing with water was checked.

### 4. Non-irritancy test-

The non-irritancy test was performed on a herbal cream formulation. The sites were observed for 24 hours.

### 5. Viscosity-

Cream viscosity was measured using a Brooke field viscometer at 25°C and spindle no. 63 at 5rpm.

### 6. Phase separation-

The prepared cream was placed in a wide-mouthed container. After 24 hours of storage, the oil phase and aqueous phase separation were visible.

## RESULTS

Table 3: Evaluation of Herbal Cream

Sr. no.	Evaluation	Result
1.	Physical evaluation	-
	a. Colour	Creamy White
	b. Odour	Fragrant
	c. Consistency	Smooth
	d. State	Semisolid
	e. pH	6.8
2.	Spreadability	7.6g.cm/sec
3.	Wash ability	Easily washable
4.	Non-irritancy test	Non-irritant
5.	Viscosity	11035cp
6.	Phase separation	No phase separation

## DISCUSSION

The current study was primarily concerned with the formulation and evaluation of herbal cream using various evaluation parameters. Because this cream formulation was an o/w emulsion, it was easily washed with normal water after application. The prepared formulation was easily spreadable. The cream's viscosity and pH were both within acceptable limits. The herbal cream was non-greasy and easy to remove after application. The formulation was non-irritant and safe for the skin. During storage, there was no phase separation in the prepared cream.

## CONCLUSION

Herbs like *Azadirachta indica* dried leaves and *Nyctanthes arbor-tristis* dried leaves have antibacterial, anti-inflammatory, and analgesic properties. The Fusion method was used to create the herbal cream, which was then evaluated using various parameters such as physical properties, pH, spreadability, washability, non-irritancy test, viscosity, and phase separation. The current study demonstrated that it is possible to develop and test herbal creams containing herbal extract for antimicrobial activity.

## ACKNOWLEDGMENT






The authors would like to express their gratitude to **Dr Anurag verma**, Professor at **Teerthankar Mahaveer college of Pharmacy, TMU Moradabad**, for providing the facilities needed to conduct this research.

## REFERENCES

1. Timur Tashan S. and A. Kafkasli. The effect of bitter almond oil and massage on striae gravidarum in primiparous women. *Journal of Clinical Nursing* 2012; 21:1570-1576. doi: 10.1111/j.1365-2702.2012.04087. x.
2. Tadimalla TR. 23 skin, hair, and health benefits of chickpea flour/gram flour/besan, Available at <http://www.stylecraze.com/articles/besangram-flour-for-skin-and-hair/gref>. retrieved on June 19, 2017
3. D. Kumar, G. Rajora, O. Parkash, H. Himanshu, M. Antil, and V. Kumar. Herbal cosmetics: a review. *International Journal of Advanced Scientific Research*, 1(4):36-41, 2016a.
4. R Shukla, V Kashaw. Poly-herbal ointment and gel formulations containing neriumindicum mill, artocarpusheterophyllus lam, murraya koenigii linn, and puniceagrnatum linn were developed, characterized, and evaluated. *J Drug Delivery Ther* 9:64-9, 2019. <https://doi.org/10.22270/jddt.v9i2.2381>
5. C.G. Rousseaux and H. Schachter. Regulatory issues pertaining to the safety, efficacy, and quality of herbal remedies. Part B, Developmental and Reproductive Toxicology, *Birth Defects Research*, 2003; 68(6):505-510. <https://doi.org/10.1002/bdrb.10053>
6. Phytoconstituents as photoprotective novel cosmetic formulations, Saraf S, Kaur CD. 2010; 4:1-11. *Pharmacogn Rev*. <https://doi.org/10.4103/0973-7847.65319>

7. Jadhav Santosh, Patil Manojkumar. A review on: nyctanthes arbor-tristis linn. Rejuvenating herbs. Int J Res Pharm Sci 2016; 1:54-62
8. Saraf S, Kaur CD. Phytoconstituents as photoprotective novel cosmetic formulations. Pharmacogn Rev. 2010; 4:1-11. <https://doi.org/10.4103/0973-7847.65319>
9. Chandrasekar R., Sivagami B., Formulation and Evaluation of a Poly Skin Care Cream Containing Neem and Tulsi. Research Journal of Topical and Cosmetics Sciences, 2018; 9(1):25. <https://doi.org/10.5958/2321-5844.2018.00006.7>
10. Prashant C., Mallinath K., et al. Formulation and Evaluation of Polyherbal Cream. International Journal of Current Pharmaceutical Research, 2020; 12(4).
11. Ashawat MS, Banchhor M, Saraf S. Herbal cosmetics: Trends in skin care formulation. Pharmacogn Rev. 2009; 3:82-9.
12. Akhtar N, Khan BA, Mahmood T, Parveen R, Qayum M, Anwar M, et al. Formulation and evaluation of antisebum secretion effects of sea buckthorn w/o emulsion. J Pharm Bioallied Sci. 2010; 2:13-7. <https://doi.org/10.4103/0975-7406.62698>



	<p>Corresponding author's name Author Name – Arun kumar Author Affiliation- Research scholar, Teerthankar Mahaveer college of Pharmacy, TMU Moradabad. Author Address- Moradabad, Uttar Pradesh India</p>
	<p>Author Name- Omprakash goshain Author Affiliation- Teerthankar Mahaveer college of Pharmacy, TMU Moradabad. Author Address- Moradabad, Uttar Pradesh India</p>
	<p>Author Name- Anurag verma Author Affiliation- Teerthankar Mahaveer college of Pharmacy, TMU Moradabad. Author Address- Moradabad, Uttar Pradesh India</p>
	<p>Author Name- Sashin kumar Author Affiliation- Future institute of Pharmacy, Bareilly U P India Author Address- Bareilly, Uttar Pradesh India</p>
	<p>Author Name- Dilshad khan Author Affiliation- Future institute of Pharmacy, Bareilly U P India Author Address- Bareilly, Uttar Pradesh India</p>