

## Formulation And Evaluation Of Herbal Face Cream Cotaining Haritaki (TERMINALIA CHEBULA)

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### ABSTRACT:

Face creams are semisolids Preparation used for improving the complexion of The face. The main aim of this research work is to prepare the face creams using Different herbs and the prepared face cream are evaluated for the efficacy. Haritaki, amla and cucumber peel are medicinal plants they are used as traditionally from ancient year in various herbal medicines such as Ayurveda, Siddha, and Homeopathic.

Ingredients:--

Harda, Amla, Cucumber peel powder, Beeswax, Glycerol, Zinc oxide, White soft paraffin, Propylglycol. The formulated face creams are evaluated for the various parameters like Organoleptic properties, pH, stability, consistency, homogeneity and appearance. Amla contains amino acids like glutamic acid, proline and aspartic acids etc. Protein, Minerals. Cucumber peels are rich in fiber and contain minerals like magnesium, potassium, and silica. The extract of cucumber peel has antiseptic activity, anti-inflammatory activity, and also increases whitening of a skin hence all these properties are beneficial to normal human keratinocytes and it is safe and stable too. The prepared skin cream was evaluated with different parameters like appearance, spreadability, pH, viscosity, rheological study and stability along with irritancy test. Stability parameters of the formulations showed that there was no significant variation between marketed and in-house formulation during the study period.

**Keyword:** Alovera, Amla, Cucumber peels, face cream, Evaluation.

### I. INTRODUCTION :

*Terminalia chebula*, commonly known as black- or chebulic myrobalan is a species of *Terminalia*, native to South Asia from India and Nepal east to southwest China (Yunnan), and south to Sri Lanka, Malaysia, and Vietnam.



The dried fruit of *T. chebula* (*Chebulae Fructus*), commonly known as black myrobalan in English and Xi-Qin-Ge or Zhang-Qin-Ge in China, have traditionally been used as a popular folk medicine for alternative, astringent, demulcent, purgative, stomachic, tonic, antiseptic, cardiotonic and laxative purposes. This fruit is also useful for burns, digestive disorders, diabetes, eye diseases, weak eye sight, fever, skin diseases and kidney dysfunction along with other herbs. In efforts to find new bioactive beta-lactamase inhibitors, which can be used against the resistance strain *Acinetobacter baumannii*, this study investigated the aqueous and methanolic extracts of *Terminalia chebula* dried fruits, which were evaluated for their inhibitor effect on metallo-beta-lactamases and antibacterial activity against *Acinetobacter baumannii* producing MBLs; where the kinetics parameters were investigated.

The name of Haritaki in Sanskrit is yellowish dye (harita) that contains the god Siva (Hari, i.e. the Himalayas) and it cures (harayet) all the diseases. Haritaki is a tree which is found in deciduous forest and areas of light rain fall throughout India. Flowers appear in April to August and fruit ripened in October to January,

fruit is drupe like (2-4.5 cm long and 1.2-2.5 cm broad, blackish with longitudinal ridges. In India, it is known as "Harad" in Hindi and Urdu, "Kadukkai" in Tamil, "Hirada" in Marathi, "Hilikha" in Assamese and "Horitoky" in Bengali.

**PLANT PROFILE :**

Ayurvedic name – haritaki

Hindi name- Harare,harra,harada

Unani name- Halela zard

Trade name- Harare,chebolic myrobalan

Parts used - dried immature fruits.

Kingdom: Plantae

Clade: Tracheophytes

Order: Myrtales

Family: Combretaceae

Genus: Terminalia

Species: T. chebula

**Vernacular Names :**

English – Chebulikmyrobalan, Hindi –Harara, Harad, Gujrat – Hardo, Punjab – Har, Halela, Hurh, Harrar, Tamil – Katukkay, Arab – Halilaj, Assam – Silikha, Hilikha, Urdu – Haejarad.

**Classical synonyms :**

Haritaki, Abhaya, Pathya, Kayastha, Putana, Haimavati, Avyatha, chetaki, Putana, Shiva, Vayastha, Rohini.

**Pharmacological properties of Haritaki :**

The chemical constituents present in Haritaki is the key source of several pharmacological investigations in vivo and in vitro reported in table no 1 in summarized form.

Sr no.	PHARMACOLOGICAL ACTIVITY	EXTRACT TYPE	ORGANISM
1.	Antibacterial	Ethanol extract	Salmonella typhi, Staphylococcus aureus, Bacillus subtilis etc. Helicobacter pylori
2.	Anticancer	Methanol	Human (MCF-7), mouse (S115) breast cancer cell lines
3.	Anticaries	Aqueous	Streptococcus mutans
4.	Anticonvulsnt	Ethanolic, chloroform, petroleum ether, aqueou	Rats
5.	Antidiabetic	Ethanol extract	Rats
6.	Antifungal	Aqueous, alcoholic, ethyl acetate	Aspergillusniger, Aspergillusflavus, Alternariaaltmat
7.	Antimutagenic	Chloroform, aqueous	Salmonella typhimurium
8.	Antioxidant	Ethanolic	Wistar albino male rats
9.	Antiulcer	Methanolic	Wistar albino male rats
10.	Cardioprotective	Ethanolic	Adult albino male rats
11.	Cytotoxic	Aacetone extract	Male Wistar rats
12.	Immunomodulatory	Alcoholic	Rats
13.	Radioprotective	Aqueous	Rats
14.	Wound healing	Hydroalcoholic	Diabetic rats
15.	Antiviral	Acetone extract	Swine influenza A virus

**Haritaki is beneficial for:**

Minimizing the appearance of fine line  
Wrinkles  
Evening skin tone, .smoothing roughness  
Firming and brightening.

Cough  
Constipation, gas, and bloating  
Indigestion  
Detoxification  
Weight loss

Skin disease



Fig: Benefits of Haritaki

**➤ Material :**

The harda powder and cucumber peel powder was collected from the herbal drug store (**Sahuji Ayurvedic store, Shahganj, Aurangabad**)

The amla powder was collected from the medical store (**Sahyadri medical store, TV centre, Aurangabad**)

**Cucumber peel:**

Cucumber peels are rich in fiber and contain minerals like magnesium, potassium, and silica. The silica is an essential component to keep your muscles, bones, and tendons healthy. It also hydrates our skin, improves complexion and vision

Cucumber (*Cucumis sativus*) is a widely-cultivated creeping vine plant in the Cucurbitaceae family that bears usually cylindrical fruits, which are used as culinary vegetables.[1] Considered an annual plant,[2] there are three main varieties of cucumber—slicing, pickling, and seedless—within which several cultivars have been created. The cucumber originates from South Asia, but now grows on most continents, as many different types of cucumber are traded on the global market. In North America, the term wild cucumber refers to plants in the genera *Echinocystis* and *Marah*, though the two are not closely related.

**SCIENTIFIC CLASSIFICATION:**

Kingdom: Plantae

Clade: Tracheophytes

Clade: Angiosperms

Clade: Eudicots

Clade: Rosids

Order: Cucurbitales

Family: Cucurbitaceae

Genus: *Cucumis*Species: *C. sativus***Amla:**

Synonyms:- Amlang(Ar), Amlaki, Amalica, Aunla, Nellikai

Biological source:- This is consist of dried fruit as well as fresh fruit of pericarp of the plant *Embolia officinalis* Geath *Phyllanthus emblica* linn.

Family:- Euphobiaceae.

Taxonomical profile:-

Kingdom:- plantae

Clade: angiosperm

**Amla Powder**

Clade: euticots

Clade: Rosids

Order: malpighiales

Genus : *Phyllanthus*Species: *pemblica*

Chemical constituents: The fruit of Amla is rich in vitamin C (ascorbic acid) and contains several bioactive phytochemicals, of which majority are of polyphenols (ellagic acid, chebulinic acid, gallic acid, chebulagic acid, apeigenin, quercetin, corilagin, leutolin, etc



### Benefits of Amla for Skin

Treats Acne. Amla helps remove acne scars.  
Brightens Complexion.  
Reduces Skin Pigmentation.  
Anti-ageing Powerhouse.  
Prevents Dandruff & Itchiness on the Scalp.  
Exfoliates the Skin Gently.

### Identification test of Amla:

#### 1. Ferric chloride test:

The aqueous alcoholic extract of amla is treated with ferric chloride solution. The blue color is obtained.

#### 2. Gelatin test :

Gelatin is added in the aqueous extract produce milky white colour.

#### 3. Lead acetate acid test:

10 mg of extract was taken and 0.5 ml of 1% lead acetate solution was added and the formation of precipitate indicates the presence of tannins and phenolic compounds



### ➤ Properties of tannins:

Tannins are freely soluble in water, alcohol, glycerol, and acetone and dilute alkalis.

They are sparingly soluble in chloroform, ethyl acetate and other organic solvents. They have an astringent taste. They yield purple, violet or black precipitate with iron compounds. They are precipitated by number of metallic salts notably potassium dichromate, and lead acetate and sub acetate. They combine with skin and hide to form leather and with gelatin and isinglass to form an insoluble compound. They combine with alkaloids to form tannates, most of which are insoluble in water.

### Identification test of Harda :

#### 1. Lead acetate acid test :

To 1 ml aliquot of each of the extracts, 10 ml of water and 5 drops of 1% lead acetate solution was added. The formation of white precipitate indicated the presence of tannins.

#### 2. Ferric chloride test:

The occurrence of blackish blue colour showed the presence of gallic tannins and a green-blackish colour indicated presence of catechol tannins.

#### 3. Gelatin test:

To a solution of tannin, aqueous solution of gelatin and sodium chloride are added. A white buff coloured precipitate is formed.

#### 4. Vanillin- HCL Test:

Condensed tannin (leucoanthocyanins and catechins) can be demonstrated in fresh plant sections with saturated alcoholic vanillin followed by addition of concentrated HCl. Bright red vanillin-tannin condensates are formed immediately.



### ➤ Extraction:

It involves the separation of medicinally active portions of plant or animal tissues from the inactive or inert components by using selective solvents in standard extraction procedures.



- **Apparatus used for extraction:**  
Hydrodistillation apparatus

- **Extraction Process Of Harda by Hydro Distillation:**

While Harda powder through this process, the powder material is soaked in the water that is placed over a container over heat. The container material should be manufactured using copper, stainless steel or glass along with a condensing unit attached to a receiving flask. During the boiling process, the powder as well as powdered vapour is captured in the condensing apparatus. Excessive water from the resultant mixture is made to dispense out through an opening in the condensing apparatus. The final product hence obtained in the receiving flask contains only the distillate.

Time : 20 min

Solvent:- distilled water.

Heating source (Apparatus) : Heating mental.

**Formulation :**

**Formula for Herbal Cream:**

Sr no.	Ingredients	Quantity taken	Uses
1.	Haritaki powder extract	1.5 gm	Anti-Dark spots
2.	Amla powder extract	1 gm	Anti-ageing
3.	Cucumber peel powder extract	0.8 gm	Reduce Swelling
4.	Bees Wax	3.2 gm	Soften and lubricant
5.	White soft paraffin	0.3 ml	Water evaporating from skin surface
6.	Distilled Water	1 ml	-
7.	Glycerine	0.7 ml	Anti-allergic/ Humectant
8.	Propylene glycol	1 ml	Preservative/ Humectant
9.	Zinc oxide	0.7 gm	Treat skin irritation
10.	Sodium benzoate	0.1 gm	Preservative

**Procedure:**

1. Take the Beeswax and Propylene glycol in the beaker.

Temperature: 100°C.

- **Extraction Process Of Amla by Hydro Distillation:**

The amla powder material is soaked in the water that is placed over a container over heat. This unit attached to a receiving flask. During the boiling process, the powder as well as powdered vapour is captured in the condensing apparatus. Final extraction solution appear in a volumetric flask.

Time : 15 min

Solvent:- distilled water.

Heating source (Apparatus) : Heating mental.

Temperature: 100°C.

- **Extraction Process Of cucumber peel by Hydro Distillation:**

The cucumber peel powder material is soaked in the water that is placed over a container over heat. This unit attached to a receiving flask. During the boiling process, the powder as well as powdered vapour is captured in the condensing apparatus. Final extraction solution appear in a volumetric flask.

Time : 15 min

Solvent:- distilled water.

Heating source (Apparatus) : Heating mental.

Temperature: 100°C.

2. The Beeswax and Propylene glycol was heat on the water bath for uniform mixing.

3. After few minutes oil phase was formed.

4. Haritaki extract, Amla extract, and Cucumber peel extract, distilled water, white soft paraffin, and glycerine, zinc oxide, sodium benzoate was taken in the beaker.

5. Mixing all ingredients by heating on a water bath, until the aqueous phase was formed.

6. Oil phase was added into the aqueous phase and continuous stirring was done until semi solid state was formed.

7. The formed semi solid state is the prepared formulation.

#### ➤ Evaluation Test:

Evaluation of herbal cream was following:

Physical Evaluation Formulated herbal creams was further Evaluated by using the following physical parameter physical parameter colour, 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) **State:** The state was cream was examined visually. The cream was solid in state.

d) **Consistency:** The formulation was examined by rubbing cream on hand manually. The cream having smooth consistency.

e) **Ph:** ph of prepared herbal cream was measured by using digital ph meter. The solution of cream was prepared by using 100 ml of Distilled water and set aside 2h. Ph was determined in three times for solution and the average value was calculated.

f) **Spredability:** spread ability of formulated cream was measured by placing sample in between two slides then compressed to uniform thickness by placing a definite weight for defined time. The specified time required to separate the two slides was measured as Spredability. Lesser the time taken for separation of two slides results showed better Spredability. Spredability was calculated by the following formula

Spredability (S) =

weight tide to upper slide(W) x Length of glass slide (L)

Time taken to separate slide(T)

g) **Washability:** formulation was applied on the skin and then ease extends of washing with water was checked.

h) **Non- irritancy test:** Herbal cream formulation was evaluated for the non-irritancy test. Preparation shown no redness and irritancy. Observation of the state was done for 24 h 28 .

## II. RESULT:

The present research was the formulation and evaluation of Harda face cream. The evaluation parameters were coming under results, like the physical evaluation of face cream, **Spreadability, Washability, non-irritancy test** was Colour was **white green**, odour was **characteristics**, state was **semisolid**, washability - **easily washable**, and **non irritant**.

## III. CONCLUSION:

Formulation of cream was done by slab method and further evaluated by various evaluation parameters such as physical properties, PH, Spreadability, Washability, non-irritancy test, viscosity and phase separation of cream and gives good results.

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