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A REVIEW: FORMULATION AND EVALUATION OF AMLA HAIR OIL

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ABSTRACT

Amla oil, derived from the Indian gooseberry, is well-known for its many benefits. Packed with vitamin C, antioxidants, and fatty acids, it helps improve the health of both hair and skin. This botanical powerhouse has a wide range of medicinal properties, including anti-inflammatory, anti-diabetic, and is anti-cancer effects. Traditional uses, phytochemical compositions, and recent scientific research all point to the health benefits of amla, showing its potential to enhance well-being and prevent various ailments. Amla holds a special place in indigenous medicine systems like Ayurveda, where it is used for both medicinal and nutritional purposes to restore vitality and vigor. The extracts from different parts of the *Embelica Officinalis* plant, especially the fruit, contain a wide range of beneficial compounds such as gallic acid, ellagic acid, tannins, minerals, vitamins, amino acids, fixed oils, and flavonoids like rutin and quercetin. These extracts have shown effectiveness against various ailments, including inflammation, cancer, osteoporosis, neurological disorders, hypertension, parasitic infections, and other infectious diseases.

Keywords: Amla oil, Botanical powerhouse, *Embelica officinalis*, Indian gooseberry

INTRODUCTION

Amla oil is a natural oil that comes from the Indian gooseberry, known as *Embelica Officinalis*. It is well-known for its numerous uses for both hair and skin. This oil is packed with antioxidants, vitamin C, and fatty acids, which are believed to promote hair growth, strengthen hair follicles, and nourish the scalp. It also has antimicrobial properties that can help with dandruff and other scalp issues. Some people even use amla oil for their skin because it moisturizes and has anti-ageing properties. Whether you apply it directly to your skin or use it in hair masks, amla oil has become popular for improving overall hair and skin health. The natural aroma of amla oil is often used in aromatherapy for relaxation. However, it's important to note that individual responses to amla oil may vary. It's a good plan to perform a patch test and consult with a healthcare professional or dermatologist before using it extensively.

METHODOLOGY

Table no. 1: list of chemicals

| Sr.no. | Chemical | Quantity |
|--------|--------------|-----------|
| 1 | Amla powder | Lab scale |
| 2 | Curry leaves | Lab scale |
| 3 | Almond oil | Lab scale |
| 4 | Bramhi herb | Lab scale |
| 5 | Mulethi herb | Lab scale |

Name of instrument: Soxhlet apparatus

Procedure for decoction of excipients:

First take sufficient amount of almond oil in a beaker and keep it on a water bath, then add 7-8 fresh curry leaves and also add 1 gm of bramhi and mulethi powder in the beaker and start decoction of the oil, after 25-30 minutes stop the decoction of the oil and cool down the mixture of decoction, after cooling filter the mixture of oil and placed it in a suitable container.

Procedure for extraction of amla oil using soxhlet apparatus:

Firstly placed the soxhlet apparatus consisting of round bottom flask, soxhlet chamber, condenser on the heating mantle, prepare a thimble for the filling of the sample by using filter paper with suitable size of soxhlet chamber and make it like a pouch, if the thimble is not prepared neatly the sample powder can come in the siphon tube it can block the tube hence it may stops the extraction process, Fill the drug material powder in the thimble and load it in the extraction chamber of soxhlet apparatus and cover the top of thimble by folding extra length of the filter paper with the help of glass rod.

Place round bottom on the heating mantle and add 4-5 pieces of glass to avoiding bumping of the solvent from bumping, now attach the rubber pipe at the lower side of the condenser as the inlet of the cold water and connect the other side to water supply, and attach other rubber pipe to the upper end of the condenser as outlet for hot water, now transfer ethanol in the soxhlet extraction chamber the extraction chamber containing drug material and add sufficient amount of solvent so it can fill the chamber and it can goes in the RBF through siphon tube.

Complete upto 40 cycles of the extraction after completion of all cycles remove the chamber and place the extract in the RBF in the separating funnel to separate oil & ethanol in the RBF, mix this extracted oil with the decoction mixture of almond oil and fill it in the amboured colored container to avoid contamination.

Keep it in cool & dry place keep away from direct sunlight.



Analysis of amla oil:

1. Determination of Ph:

Determination of ph is done by ph paper of the amla oil and it is performed by dipping the ph paper in the formulated oil .

2. Determination of density of oil:

For the determination of density of oil the apparatus called specific gravity bottle is used formula for determination of density using gravity bottle is:(weight of gravity bottle + sample – weight of empty specific gravity bottle/ weight of gravity bottle + water – weight of empty specific gravity bottle)

3. Determination of viscosity by Ostwald's viscometer:

Viscosity of liquid= density of sample*T2 / density of water*T1

Viscosity of a fluid is a value of its resistance to deformation of fluid at a given rate with time.

4. Determination of specific gravity of oil:

The specific gravity of oil is defined as the ratio of the oil density to water density, both measured at the same pressure and temperature.

RESULTS AND DISCUSSION

Determination of ph reveals that the formulated oil is slightly basic and found to be 7.2 by ph scale the determination of ph is performed by ph paper

Table 1: Measurement of ph

| Batches | Ph |
|---------|-----|
| F1 | 7.0 |
| F2 | 7.1 |
| F3 | 7.2 |
| F4 | 7.2 |

Determination of density of oil :

Weight of empty specific gravity bottle (w1) = 31.18 gm.

Weight of gravity bottle + water (w2) = 88.39 gm.

Weight of gravity bottle + sample (w3) = 80.53 gm.

Density of sample = $W3-W1 / W2-W1$

$$= 49.17 / 57.12 = 0.860 \text{ gm/ml}$$

Determination of viscosity of oil by Ostwald's viscometer:

| Batches | Viscosity(in cp) |
|---------|-------------------|
| F1 | 0.919 |
| F2 | 0.917 |
| F3 | 0.918 |
| F4 | 0.919 |

Specific gravity of oil = density of sample/ density of water

$$=0.86/1 =0.86$$

CONCLUSION

A lot of people says that amla oil is really good for your hair and scalp. Amla hair oil is obtained & gain from the fruit of the Indian gooseberry tree called phyllanthus embelica. Even though the Indian gooseberry tree is originally from India, It is now grown in other places like the Middle East and Asia for commercial purposes. People have been eating amla fruits or using them to make tonics and oils for thousands of years because they have medicinal properties.

You can find amla fruits in health stores, natural pharmacies, and Indian grocery stores. They can be dried, fresh, or frozen, and you can also buy amla powders and juices.

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