

FORMULATION AND EVALUATION OF HERBAL SHAMPOO

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ABSTRACT

The main object of this present study is to prepare and evaluate an herbal shampoo and determine physiochemical function that emphasizes on safety, efficacy and quality of the product. Herbal shampoo is the natural hair care product which is used to remove grease, dirt, dandruff and promote hair growth, strength and darkness of the hair. It also provides softness, smoothness and shine for the hair. Various drugs are used for the preparation of cosmetic shampoo. Such drugs show various side effects such as hair loss, increased scaling, scratching, discomfort, nausea and headache. Therefore, this is an attempt which is made to formulate herbal shampoo that is free from side effects. In the present study, herbal shampoo was formulated containing suitable ingredients such as *Sapindus Mukorossi*, *Embllica Officinalis Gaertn*, *Acacia-Concinna*, *Hibiscus-Rosa-Sinensis*, *Murraya-Koenigii*, *Aloe-Barbadensis Miller*, *Azadirachta Indica*, *Gelatin*, *Citrus Limon*, *Rosa Damascena*. The main ingredient which is used in these formulations is *Murraya Koenigii* (Curry Leaves extract) which is an antioxidant and from ancient times it is used for rapid hair growth and to prevent hair loss.

KEY WORDS :- Herbal Shampoo, Hair Growth, *Murraya Koenigii*, Materials And Methods: Natural And Healthy, Formulation Evaluation Of Shampoo

Introduction

Herbal shampoo is a type of cosmetic preparation that uses herbs from plants as an alternative to the synthetic shampoo available in the market. The herbal shampoo is important as people nowadays prefer herbal products than chemical ones for proved to enhance health. The awareness and need for cosmetics with herbs are on the rise, primarily because it is believed that these products are safe and free from side effects.

Curry leaves are rich in antioxidants. These antioxidants moisturise the scalp, and also remove dead hair follicles. Apart from that, curry leaves are beneficial for the hair since they are high in beta-carotene and protein content, which are instrumental in preventing hair loss and thinning of hair. Curry leaves are known to have darkening agents, antioxidants and vitamin B complex which can turn your hair back to your natural colour. It helps restore the natural pigment of your hair and turn your grey hair dark naturally.

A shampoo may be defined as a preparation of a surfactant (ie. Surface active material) in a suitable form-liquid, solid or powder which when used under the conditions specified will remove surface grease, dirt and skin debris from the hair, shaft and scalp without affecting adversely the hair, scalp or the health of the user. The word shampoo in English usage dates back to 1762, with the meaning "to massage". The word derived from Anglo-Indian shampoo, in turn from Hindi *champoo* (merative of *champana* to smear, knead the muscles, massage). Today, a plethora of shampoos are available for men and women. A good shampoo should almost immediately form abundant foam irrespective of the type of water used or the nature of soil or fat to be removed from hair. Though foam formation is not related to the cleansing effect, but people psychologically always prefer a high foam product. Some good shampoos are found to have side effects like drying effect on the hair. This leaves the hair too dry to handle or comb. So proper conditioning of the hair is also an import

BENEFITS OF HERBAL SHAMPOO :-

1. More shine
2. Less hair loss
3. Long lasting color
4. Stronger and more Fortified hairs
5. All natural, no chemicals
6. Won't irritate skin or scalp
7. Keep healthy natural oils

Functions of herbal shampoo :-

1. Lubrication
2. Conditioning
3. Hair growth
4. Maintenance of hair colour
5. Medication

Advantages of herbal shampoo :-

1. Pure and organic ingredient
2. Free from side effects
3. No surfactants e.g.:-SLS
4. No synthetic additives
5. No animal testing
6. Skin friendly
7. No petroleum based ingredients

Ingredients**Reetha:**

Reetha is a large deciduous tree of sapindaceae family. The major constituents present in Reetha are saponins,



sugars and mucilage which is used for natural hair cleansers. It is commonly known by many names like soapberry, soapnut, washnut, aritha, dodan. It is commonly found in India, Japan and China. Reetha is found in the hilly regions of the Himalayas in India.

Amla :

The 'Indian gooseberry' is another name for *Emblica officinalis*. It is a member of the Euphorbiaceae family and is referred to as amla in Hindi and amalaki in Sanskrit. It is a small to medium-sized tree with spreading branches and a crooked trunk, and its grayish-green bark comes off in pieces. The leaves are simple, subsessile, and tightly spaced along the branchlets, which are glabrous or faintly pubescent, 10–20 cm long, and typically deciduous.

Shikakai:

Shikakai is an herb especially used for controlling hair fall and dandruff. Shikakai can be used alone or in combination with reetha and amla as a shampoo to help manage hair fall and prevent dandruff due to its cleansing and antifungal properties. It provides shine to the hair as well as prevents its greying.

CURRY LEAVES:

Curry leaves, also known as sweet neem leaves, are an important herb in Indian cuisine. It belonging to family Rutaceae. South Asia is home to this plant and it is found in countries like Sri Lanka, Bangladesh, China and India. Curry leaves have been used for centuries in traditional Indian hair care for their beneficial properties. Curry leaves are known to have darkening agents, antioxidants and vitamin B complex which can turns hair Back to natural color.

Hibiscus:

In Kannada, it is known as Dasavala, while in Sanskrit, It is known as Rudrapushpa. Hindi. The Malvaceae



family of flowering plants Includes the genus Hibiscus. Several species, Including Hibiscus syriacus and Hibiscus rosasinensis, Are frequently grown as attractive plants. It can be Found in Egypt, North America, Malaysia, Japan, China, and India. A small tree or bushy evergreen Shrub that can reach heights of 2.5–5 metres (8–16 Feet) and 1.5–2. Glossy leaves and solitary, vivid red Summer flowers on a 39m (5–10ft) broad plant. It has Conspicuous orange-tipped crimson anthers on its five Petaled, 10 cm in diameter flowers. The leaf is simple with alternate phyllotaxy, petiolate, Oval, sharp at the apex, and serrated along the Margin. It is made up of pigments such as -tocopherol, -carotene, -europinidin, -petunidine, -rosainidin. The Herb is employed in ayurveda and medical practises for its antioxidant, antipyretic. It exhibits proliferative effect, menorrhagia, piles, diarrhoea, and allergies. It is also an anthelmintic, antibacterial, and antifungal. In the cosmetics industry, it is used to treat dandruff, thicken hair, stop hair loss, make hair look healthy and Shiny, prevent premature greying, condition against frizz, dryness, and breakage, and avoid split ends.

Neem :



Also known as Bevu in Kannada, Nimba in Sanskrit, and Neem in English. It is made out of the leaves of the Meliaceae family tree Azadirachta indica. Medical uses include antimicrobial, anti-ulcer, and anti-diabetic. It is used to treat hair loss, split ends, frizzy hair, and early greying of the hair. It is also used to treat dandruff and fungal infections of the scalp. It is also used to condition the hair, strengthen the hair follicles, and add volume and gloss to the hair. It also cleans the scalp of the hair. It is also utilised in Ayurveda to cure vatta issues and balance kaphadosha and pitta.

Lemon :



- Remove split ends
- Reduce hair fall
- Detox the scalp
- Get rid of dandruff
- Give natural colour to hairs

Rosewater



Reduce oilness and dandruff , promote hair growth.

Gelatin:



- Improve hair thickness and growth
- For strengthening the hairs
- Gelatin supplement or placebo for 50weeks to 24 people with alopecia.

Formulation of herbal shampoo:

Sr.no	Drug name	Quantity of extract taken for 100ml shampoo
1	Reetha extract	10ml
2.	Amla extract	10ml
3.	Shikakaiextract	10ml
4.	Hibiscusextract	10ml
5.	Curryleaves	10ml
6.	Neem extract	10ml
7.	Gelatin	Q.S
8.	Lemon juice	Q.S
9.	Rosewater	Q .S

Preparation method:

Formulation of the herbal shampoo was done as per the formula given in Table 1. To the gelatin solution (10%), added the herbal extract and mixed by shaking continuously at the time interval of 20 min. 1 ml of lemon juice was also added with constant stirring. To improve aroma in the formulation, sufficient quantity of essential oil (rose oil) was added and made up the volume to 100 ml with gelatin.

Evaluation parameter of herbal shampoo:

1. Physical appearance

The formulation prepare were evaluated in terms of their clarity, foam producing ability and fluidity.

2. PH determination

The PH of the 10% v/v shampoo solution in distilled water was determined using PH tester at room temperature.

3. Surface tension measurements

The prepare Shampoo in distilled water was evaluated for surface tension using stalagmometer in room temperature.

4. Conditioning performance evaluation :-

An artificial hair tress of Indian woman was received from a salon and divided into 2 swatches of length 10 cm approximately, weighing 5 gram. The controls swatch was the one without washing and the test Swatch using the formulated shampoo was washed with. Each tress was added for 2 min to the combination of shampoo in water in the proportion 10:15 taken in a conical flask and washed using 50 ML of distilled water. Each tress was air dried at room temperature and the procedure was repeated for maximum 10 times. The conditioning effect of the prepared shampoo in terms of softness and smoothness was determined using a blind touch test using volume volunteers of student 20 numbers selected randomly. The conditioning performance of the shampoo was rated in terms of Score 1-4 (4- excellent, 3-good, 2-satisfactory and 1-poor) by asking all the selected students to touch the tress washed with prepared shampoo.

5. Stability study

The thermal stability of formulations was studied by placing in glass tubes and they were placed in a humidity chamber at 45 Degree C and 75% relative humidity. Their appearance and physical stability were inspected for a period of three months at intervals of one month.

PHYSICOCHEMICAL PROPERTIES OF HERBAL SHAMPOO**Result:**

The shampoo was formulated by mixing the equal amount of the aqueous extracts of all the ingredients. The above plant extract contains phytoconstituents like Saponins which is a natural surfactant having detergent property and Foaming property. An ideal shampoo must have adequate viscosity and many natural substances possess good viscosity. The gelatin solution behaves as a pseudoplastic forming clear solutions. Lemon juice added to the shampoo serves as anti dandruff agent, natural antioxidants, and chelating agent and maintains the acidic pH in the formulation.

Conclusion

The present study was point out with the object of preparing the herbal shampoo that reduces hair loss, promote hair growth and strength of hair. Herbal shampoo was formulated with the aqueous extract of medicinal plants that are commonly used for cleaning hair traditionally. Use of conditioning agents (synthetic) reduces the hair loss. To provide the effective conditioning effects, the present study involves the use of shikakai, amla and other plant extracts instead of synthetic. Study shows that dandruff affects 5% of the population and mostly occurs after puberty, between 20-30 years and affects males more than females. Formulation of any cosmetic product by complete raw and natural material is a difficult task. The main challenge lies in selection of natural material which can be rationally justified and comparable to that of synthetic material. In present study our aim is to develop an herbal shampoo which would be completely natural.

However the formulated shampoo shows good rheological properties and quiet comparable with its marketed counterparts but its detergent and cleaning property was found somewhat less in comparison to marketed products. It can be justified by the fact that marketed shampoo contains some synthetic ingredients like thickening agents and surfactants which promotes better cleaning properties. Formulated herbal shampoo shows good physical properties like pH, percentage of solids, foam formulation, retention, viscosity and dirt dispersion. The anti-fungal property also found within the range of satisfaction.

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