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Formulation and Evaluation of Polyherbal Shampoo

V. Gunaseelan, P. Anitha*, R. Aruna, S. Azhagumeena, P. Babu Vishal, R. Bharathiventhan, R.Rajiv gandhi.

Shri Indra Ganesan Institute of Medical Science College of Pharmacy-NH 45Bmain road, Manikandam, K. Kallikudi south – Tiruchirappalli, Tamil Nadu

Corresponding author: **Anitha P**

Email; gunaseelanv97@gmail.com

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Abstract: Herbal shampoo is natural hair cleansing formulation prepared from plant-based ingredients such as custard apple leaves, Retha, shikakai, aloe vera, hibiscus, neem. They are safer and more environmentally friendly than synthetic shampoo because they don't include harsh chemicals. These herbal formulations effectively cleanse the scalp, remove excess oil, reduce dandruff, promote healthy hair growth. The formulated herbal shampoo exhibited a pH between 5.5 to 7.0, indication its suitability for application. Custard apple leaves and aloe vera are widely recognized for their therapeutic properties. Custard apple leaves contain bioactive phytochemicals such as flavonoids, tannins, alkaloids and phenolic compounds that exhibit antioxidant and anti-dandruff activities.

They are also gentle on the scalp, making them suitable for people who have sensitive skin or a sensitive scalp. Herbal shampoos have emerged as a promising alternative to conventional synthetic formulations, in both the pharmaceutical and cosmetic industries. Aloe vera is well known for its moisturizing soothing, anti-inflammatory and scalp conditioning properties. In recent years the demand for herbal shampoo has increased significantly because of the growing consumer preference for natural. This review highlights the importance of formulation a polyherbal shampoo containing custard apple leaves and aloe vera as a hair care product. Overall, the developed herbal shampoo demonstrated excellent potential as a natural substitute for conventional chemical – based shampoos by providing effective hair cleansing while utilizing safe and eco-friendly herbal ingredients.

Keywords: Polyherbal shampoo, Annona squamosa, Aloe vera, Hair care, Reeth, Anti-dandruff, Formulation and evaluation, Natural ingredients.

INTRODUCTION:

Haircare is an important part of personal hygiene. Shampoos are commonly used to remove dirt, oil and dandruff from the hair and scalp. In recent years, herbal shampoos have gained popularity. Because they contain natural ingredients and fever synthetic chemicals. Annona squamosa leaves are traditionally used in herbal medicine due to their antimicrobial and antioxidant properties. Hair is an important parts of our body is hair problems like hair loss, dry hair, split ends, hair breakage, frizz etc…

Shampoo is commonly used as part of the daily hair care routine. Hair plays an essential role in personal appearance and contributes significantly to an individual's confidence and overall, well – being. However, factors such as environmental pollution, stress, unhealthy dietary habits, microbial infections, and the exclusive use of chemical – based hair care products have increased the prevalence of hair disorders including dandruff, hair fall, dry scalp, itching, and hair damage.

Although synthetic shampoos effectively clean the scalp and hair, their prolonged use may cause adverse effects due to the presence of sulphates, parabens, artificial fragrances, & other harsh chemicals. These concerns have led to a growing interest in herbal shampoos as safer and more suitable alternatives.

History of custard apple leaves:

Custard apple (Annona squamosa) has been used in traditional medicine for many years, especially in India and other tropical countries. Different parts of the plant, particularly the leaves, have been valued for their medicinal properties. Traditionally, custard apple leaves were used to manage scalp infections, dandruff, head lice and itching because of their antimicrobial and antifungal activities. As interest in herbal cosmetics increased, researchers began incorporating custard apple leaf extract into herbal shampoo formulations. Today, it is considered a promising natural ingredient for that help cleanse the scalp, reduce dandruff and support healthy hair growth while minimizing the use of synthetic chemicals.

History of Aloe vera:

Aloe vera has been used as a medicinal and cosmetic plant for thousands of years. Ancient civilizations such as Egypt, Greece, India, and China recognized its healing and soothing properties and used it for skin and haircare. Traditionally, Aloe vera gel was applied to the scalp to reduce dryness, irritation, and dandruff while keeping the hair soft and healthy. Due to its moisturizing, anti-inflammatory, and antimicrobial properties, Aloe vera has become an important ingredient in modern herbal shampoos. It helps nourish the scalp, improve hair texture, and promote healthy hair growth without causing harsh side effects.

Need of shampoo:

Shampoo is an important hair care product used to keep the scalp and hair clean hygiene. It helps remove dirt, excess oil, sweat, dead skin cells, environmental pollutants, and residue from hair care products. Regular shampooing maintains scalp hygiene and prevents the build-up of impurities. Proper cleansing also helps reduce common hair problems such as dandruff, scalp irritation, infections, and excessive hair fall, thereby promoting healthy hair and scalp.

METHODS AND MATERIALS:

MATERISLS:

The following herbal ingredient and excipients were used for the Formulation of the polyherbal shampoo containing custard apple leaves and aloe vera.

- Custard apple leaves
- Aloe vera
- Reetha
- Shikakai
- Hibiscus
- Neem

Custard Apple Leaves: (Annona squamosa)

Custard apple leaves are also known as sugar apple leaves and sweetsop leaves. In India, they are also frequently called Sitahal leaves. It belongs to the family Annonacae. This is a large tropical family. It includes over 100 genera and 2000 species of shrubs trees and woody climbers the Custard apple leaves are used in hair care to eliminate head lice, reduce dandruff and prevent hair fall. Custard apple leaves are frequently integrated into organic shampoo conditioners or DIY hair mask.

Aloe vera : (Aloe barbadensis miller)

It is a hydrating, soothing hair cleanser designed to reduce scalp irritation, reduce the dandruff, promoting healthy and shiny hair. It helps to anti-inflammatory properties. It is a natural humectant It is rich in vitaminA, C and E as well as amino acid. It helps to strengthen the hair shaft.

Reetha: (Sapindus mukorossi)

Reetha is a natural supponis. it cleans the scalp ,removing excess oil, dirt and dandruff build-up without stripping moisture. It will support the hair growth and prevent breakage and reduce hair loss from clogged follicles.

Shikakai: (Acacia concinna)

It is an ayurvedic herb whose name literally means "fruit for hair". It helps to gentle and pH to hair. Shikakai is used as a natural, soap as free cleanser to wash the hair.

Hibiscus (Hibiscus rosa-sinensis)

The family of hibiscus is Malvaceae. It is a flowering plant native to form and topical regions. It is a vitamin and Antioxidant.

Neem: (Anabranch indica)

Neem tree as antifungal, antibacterial, anti-inflammatory properties neem is excellent for promoting hair growth. It is creating a healthy, infection free scalp. Neem is an ayurvedic "King of herbs."

Methods of formulation:

The surfactants dissolve in purified water with continuous stirring the clear solution was obtained. The fresh aloe vera leaves were thoroughly washed, and outer green layer was removed. And then collect the inner layer of the gel. The fresh custard apple leaves were washed ,shade dry ,powder, extracted by using a distilled water or ethanol. The custard apple leaves were extract and filtered. The filtered custard apple leaves extracts and aloe vera gel and added slowly to the surfactant by continues. Glycerine was added as a moisturizing agent. To improve their conditioning properties of the herbal shampoo.

Citric acid solution was added. And then adjust the pH to a suitable level of for scalp application. Fragrance was added. And the Formulation of mixed through the smooth homogeneous shampoo was obtained. The prepared shampoo was transferred into clean and airtight container finally in was stored at room temperature for further evaluation.

Evaluation Test:

Skin irritation test:

To check any signs of irritations like itchness, pain, breakout on skin, redness etc…

Determination of pH:

The pH test is carried out to check whether the shampoo has a suitable pH for the scalp and hair. Shampoo in distilled water were measured by using pH meter at room temperature.

Viscosity test:

The viscosity test is done to check how thick or thin the shampoo is. It helps to ensure that the shampoo has the right consistency and can be poured and applied easily.

Conclusion:

The aim of this study was to formulate a completely polyherbal shampoo which is at poor with the synthetic shampoo available in the market. We formulate herbal shampoo by using plant extracts which are constantly used traditionally launched for the hair cleaning, antidandruff. Herbal shampoo using custard apple leaves is prepared and evaluation were carried out for these following parameters ; pH determination ,viscosity test, skin irritation test. The present study successfully demonstrated the formulation of an herbal shampoo using custard apple and aloe vera extracts, emphasizing of an natural, safe, and effective alternative to synthetic shampoos. The herbal shampoos are the preparations which are used for the washing and cleaning of hairs and to provide nourishment. The herbal shampoos are widely used due to their no or less side effects as compared to conventional shampoos ,because it contains pure natural or herbal ingredients rather than synthetic chemicals. Herbal shampoo does not require animal testing, and it is earth and skin friendly. From the overall results showed natural pH, non-irritant to the skin. The longer wetting time indicates the presence of mild surfactants, making it suitable for sensitive scalps.

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