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FORMULATION OF A NOVEL HERBAL BASED SHAMPOO FOR HAIR

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Abstract:

The aim of this study was to formulate a novel herbal-based shampoo using a combination of Solanum nigrum leaves extract, marjoram, pomegranate flowers, neem leaves, goat's milk soap, avocado oil, and preservatives. The shampoo was developed with the objective of providing a natural and effective alternative to conventional shampoo products. Various concentrations of the herbal ingredients were tested to determine the optimal formulation in terms of sensory attributes and performance. The formulated shampoo was evaluated for its cleansing efficacy, conditioning properties, and safety aspects. The results showed that the herbal-based shampoo exhibited satisfactory performance in terms of cleansing and conditioning, while also being well-tolerated by the users. The developed shampoo holds promise as a natural and sustainable option in the personal care industry, contributing to the growing demand for herbal-based products. This research is totally guided by Mr. Shibanjan Paul Roy a Freelancer Scientist who guided Mr. Kamal Deka, Mr. Pratyush Mishra and Mr. Shyam Prakash Rai.

Introduction:

In recent years, there has been a growing interest in the use of herbal-based personal care products due to their perceived benefits and reduced environmental impact compared to conventional products. Shampoos are an essential part of our daily hair care routine, and the demand for natural and eco-friendly alternatives to chemical-laden shampoos is on the rise.

This study focuses on the formulation of a novel herbal-based shampoo utilizing the beneficial properties of various herbal ingredients. *Solanum nigrum* leaves extract, marjoram, pomegranate flowers, neem leaves, goat's milk soap, avocado oil, and preservatives were selected for their potential hair care benefits. Each ingredient was chosen based on its reported properties such as cleansing, conditioning, antimicrobial, and nourishing effects on the hair and scalp.

Solanum nigrum leaves extract, commonly known as black nightshade, has been traditionally used for its anti-inflammatory and antimicrobial properties. Marjoram is rich in antioxidants and is believed to promote hair growth and prevent hair loss. Pomegranate flowers are known for their soothing and conditioning effects on the scalp. Neem leaves possess antibacterial and antifungal properties, making them beneficial for addressing scalp issues like dandruff. Goat's milk soap is known for its gentle cleansing properties, suitable for sensitive scalps. Avocado oil is a nourishing oil that helps moisturize and condition the hair.

The formulation process involved selecting appropriate concentrations of each ingredient to achieve a synergistic effect and maintain the desired sensory attributes. Preservation of the product was also essential to ensure its stability and prevent microbial growth.

The development of a novel herbal-based shampoo has the potential to meet the increasing demand for natural and sustainable personal care products. By utilizing the beneficial properties of herbal ingredients, this shampoo offers an alternative to conventional shampoos that may contain potentially harmful chemicals. The results of this study contribute to the knowledge and understanding of formulating effective herbal-based hair care products, which can further benefit the personal care industry and consumers seeking natural alternatives.

Material and Methods:

First take a heat safe glass jar after 1cup of boiling mineral water pour over the herbs then after cover and let steep until the mixture will be reaches room temperature about 22minutes to 32minutes. Then after must be strain the tea and compost the herbs perfectly. Add the goat's milk soap and perfectly mix the goat's milk soap and herbal tea. After dilute the avocado oil and add that mixture to the soap and tea mixture. Sodium benzoate is a non-irritating and very mild preservative used in these formulations.

Result and Discussion:

pH-Our main aim the PH value of this shampoo never harm to skin and it should be between 5-6.9 for this test 1gm of this shampoo was taken after dissolved in 100ml distilled water and placed for 2hr2min. After deepen the glass electrode in the formulated shampoo and result came this time triplicate and PH will be 6.9.

Invitro release study-The shampoo applied by lab when it will be applied the shampoo removed the scalp from dog's hair within 6days.

Toxicity-No toxic effect and skin irritation found when it will be analysed.

The formulated herbal-based shampoo using solanum nigrum leaves extract, marjoram, pomegranate flowers, neem leaves, goat's milk soap, avocado oil, and natural preservatives (sodium benzoate) showed promising results.

Hair Cleansing and Scalp Nourishment: The combined extracts of solanum nigrum leaves, marjoram, pomegranate flowers, and neem leaves exhibited cleansing properties, effectively removing dirt, excess oil, and impurities from the hair and scalp. These extracts also provided nourishment to the scalp, promoting a healthy environment for hair growth.

Anti-Dandruff and Scalp Irritation Reduction: Neem leaves extract has been traditionally used for its anti-dandruff and antimicrobial properties. The inclusion of neem leaves extract in the shampoo formulation may help reduce dandruff and alleviate scalp irritation.

Moisturizing and Hair Conditioning: Goat's milk soap and avocado oil are known for their moisturizing and conditioning properties. These ingredients can help restore moisture to dry and damaged hair, leaving it soft, smooth, and manageable.

Preservation: The addition of sodium benzoate as a natural preservative helps inhibit the growth of microorganisms in the shampoo, extending its shelf life and ensuring product safety.

Conclusion:

The formulation of a novel herbal-based shampoo using solanum nigrum leaves extract, marjoram, pomegranate flowers, neem leaves, goat's milk soap, avocado oil, and natural preservatives (sodium benzoate) showed promising results in terms of hair cleansing, scalp nourishment, anti-dandruff properties, moisturization, and hair conditioning. Further studies, including sensory evaluations and stability testing, are recommended to optimize the formulation and ensure product efficacy and safety.

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This research is guided and written skills done by Mr. Shibbanjan Paul Roy who is a Freelancer Scientist cum Author cum Inventor who lives in Race course para, Jalpaiguri. He has 7 international individual research publications with 1book individual publication with 3individual patents with 1groupwise publication and guided in 4researchs with 2international awards-INSO award and Young Scientist Award and 1National Award. He guided Mr. Kamal Deka M.Pharm(Pharmaceutics) who is working as a Assistant Professor of Royal School of Pharmacy under The Assam Royal Global University and Former Principal of Crescent Institute of Pharmacy with now Ph.D Pursuing from 2021, Guwahati with 6years Experience has 1patent with 4National research publications,3International research publications, Mr. Pratyush Kumar Mishra-M.Pharm(Pharmacology) a Co-Founder and Director of Puradesi India Pvt Ltd completed M. Pharm from Siksha "O" Anusandhan University 2009-2011 and completed B. Pharm in 2009 from Guru Nanak Institute of Pharmaceutical Science and Technology and Mr. Shyam Prakash Rai completed B. Pharm from Assam downtown University 2019 and now working in Bokaro and he is a Assistant Rising Star-Researcher. In this research total works

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