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Research article

Medical research

Formulation and evaluation of herbal hair dye

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ABSTRACT

Herbal preparation like herbal tablets, herbal tonics, herbal paste, herbal shampoo, herbal contraceptives, herbal dyes has become popular among the consumer herbal medicines represent the fastest growing segment to heal the various ailments. The main aim and object of present study is formulation and evaluation of herbal hair dye, investigating the alternative to the synthetic and semisynthetic dyes. Loss of color in hair is due to varied reasons like genetic influence, effect of environment factors, reasons like use of alcoholic preparations etc. Herbs are widely used as remedial agents because such drugs are easily available at low cost and comparatively safe and the people have good faith in such remedies. In India , ayurvedic system evolved over 5000 years and ago and is still in practice. Herbal formulations have growing demand in the world market. To overcome this entire problem was the main intention of our project. So we prepared hair dye powder which is multipurpose powder for hair dyeing treatment. The current research was aimed at the preparation of herbal hair dye and the evaluation of its various parameters as organoleptic, physio chemical, phytoconstituents, rheological aspects, patch test and stability testing for its efficacy and shelf life.

Keywords: herbal, hair dye

INTRODUCTION

Mother nature has given human, the most loved formation of God, with all that he expected to live on this planet: air to inhale, water to extinguish thirst, grains to appetite flame to light etc. Human body is the microcosm of the whole universe and the response to every human issue lies in keeping up congruity with the enormous musicality. Nature has offered way to keep up that parity. Herbs! yes herbs are one such means.an herb is a plant or plant extract, including leaves , bark , berries , roots, gums,seeds,stems and flowers which are bestowed with nourishing and healing elements¹. If human being wants to look beautiful, so they have been using different types of materials from time immemorial to improve their looks. Originally cosmetics were associated with religious practices. It is true especially in case of all civilization like Indian, Chinese, Egyptian and Greek. In past, all cosmetics were made at home. Natural materials like aromatic natural spices, herbs, dyes, oils, perfumes

were used. The WHO is now actively encouraging developing countries to use herbal medicines which they have been traditionally using for centuries. They have identified 3000 plants from forest of India and other tropical countries which can be used as medicinal products. In the early stages, signs of medicine developed around those plants which have curative property. The continued search for medicinal plants for the last several centuries has given rise to a long list of plants which are used in the treatment of diseases, promoting health and formulation of herbal cosmetics. Herbal cosmetics are the preparations which represent cosmetics associated with active bioactive ingredients or pharmaceuticals. The use of phytochemicals from a variety of botanicals has dual function:

1. They serve as cosmetics for the care of body and its parts
2. The botanical ingredients present influence biological functions of skin and provide nutrients necessary for the healthy skin or hair.

Herbal cosmetics are formulated using various permissible cosmetic ingredients to form the base in which one or more ingredients are used to provide defined cosmetic benefit only can be referred to as “herbal Cosmetics”.

AIM AND PLAN OF STUDY

In developing countries people still depend on herbal cosmetics because of the side effects of most of the synthetic cosmetics. So, the herbal hair dye was selected for the present research. The usage of herbal cosmetics has been increased to many folds in personal care system and there is a great demand for the herbal cosmetics. The use of bioactive ingredients in cosmetics influence biological functions of skin and provide nutrients necessary for the healthy skin and hair. There is

tremendous scope to launch numerous herbal cosmetics using appropriate bioactive ingredients with suitable fatty oils, essential oils, proteins and additives. Nowadays chemical cosmetics are more popular among all the people because they only knew that the cosmetics products are the best choice to reduce skin disorders rather than their side effects. So that the purpose of this study was developed herbal cosmetics dye by mixing of amla, henna, hibiscus, bringaraj, neelamari, curry leaves, brahmi to produce multipurpose effect on hair such as coloring, cooling, shining etc. and to minimize the side effect and to improve hair care so we are introducing the herbal hair dye. Being herbal and organic, it contains no irritants that might cause allergic reactions, and the color lasts longer and fades gently, making it suited for all hair types. Natural hair dyes alleviate dryness, irritation and smooth the locks.

MATERIALS AND METHODS

STEP 1

Collection of plant materials from medicinal plant garden and authenticated

STEP 2

Evaluation of purity and quality of raw materials by morphological, physical and chemical techniques, toxicological studies were performed.

STEP 3

All the drugs were made into powder weighed according to the formula mentioned

STEP 4

Prepared hair dye formulas

STEP 5

Human white hairs were collected from human voluntaries

Ingredients	Official formula
Garlic peel	7g
Coconut peel	7g
Kadukai powder	4g
Pomegranate peel	5g
Curry leaves	1g
Indigo powder	1g

Procedure

- About 7g of garlic peel and coconut shell powder which was previously passed through sieve no. 12 and 25 was measured and transferred into a mortar and it is thoroughly triturated to get uniform distribution in the mixture.
- About 4g of kadukai powder and 5g of pomegranate sieved similarly is added to the mixture mentioned above and thoroughly triturated for 15 min.
- About 1g of curry leaves along with indigo powder added and the mixture was triturated for

20 min.

This mixture after thorough trituration is transferred into a labelled air tight pouch. His hair color gives natural look and also keeps hair healthy because of olive oil mixture. White Hair samples was collected from the barber shop for conducting the evaluation tests.

Packing

After formulating the dye, zip lock cover is taken to the packaging line, the packaging is completed and labeling of the product is done.



ASH OF COCONUT SHELL



ASH OF GARLIC PEEL



HERBAL HAIR DYE



APPLICATION OF HERBAL HAIR ON DIFFERENT SAMPLES BY MIXING ON WATER AND OIL

RESULTS

Patch Test

Sl.No	Parameters	Result
1	Swelling	Negative
2	Redness	Negative
3	Irritation	Negative
4	Homogeneity	Positive

Organoleptic Test

Sl.No	Parameters	Results
1	Color	Greenish brown
2	Odor	Characteristic
3	Texture	Fine
4	Appearance	Powder

Phytochemical Evaluation

Sl.No	Parameters	Results
1	Foam test	Present
2	Molisch test	Present
3	Fehling test	Absent
4	Hager test	Present
5	Volatile oil	Absent

Rheological Evaluation

Sl.No	Parameters	Results
1	Foam test	Present
2	Molisch test	Present
3	Fehling test	Absent
4	Hager test	Present
5	Volatile oil	Absent

Stability Test

Sl.No	Parameters	Room temperature	35°C
1	Color	No change	No change
2	Odour	No change	No change
3	pH	7.8	7.8
4	Texture	fine	fine
5	Smoothness	smooth	smooth

CONCLUSION

The present study was directed to a herbal hair dye composition for dying human hair. Efficacy data shows that this embodiment is highly effective, exhibited fast dying effect without causing hair damage and skin irritation at this composition. It nutrifies the skin of scalp and hair. Coconut shell is a natural hair dye and it also helps to smoothen the scalp and remove the impurities from the scalp. Garlic peel has anti- microbial properties and known to be rich in vitamin C content that is great for promoting hair health. The formulation was found to produce excellent coloration on application. Frequent use of this pack leads to manageable, frizz free colored hair. Pollution, ageing, stress and harsh

climate badly affect the quality of hair. Advantage of this natural hair dye is, it does not cause any skin irritation, erythema formation and edema. It is prepared from 100% water soluble plant ingredients; hence it is free from any noxious odor. The raw materials used and the final product is totally biodegradable. The product is stable in room temperature. The composition and mode of preparation is environment friendly. Natural remedies are widely accepted with open hands now a days, as they are safer with minimal side effects as compared to chemical-based product. Herbal formulations are in great demand to fulfill the needs of the growing world market. It is a noticeable attempt to formulate the herbal hair pack containing the goodness of powders of different plants, which are excellent for hair care.

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