

Formulation and Evaluation of Herbal Shampoo Containing Extract of *Allium Sativum*.

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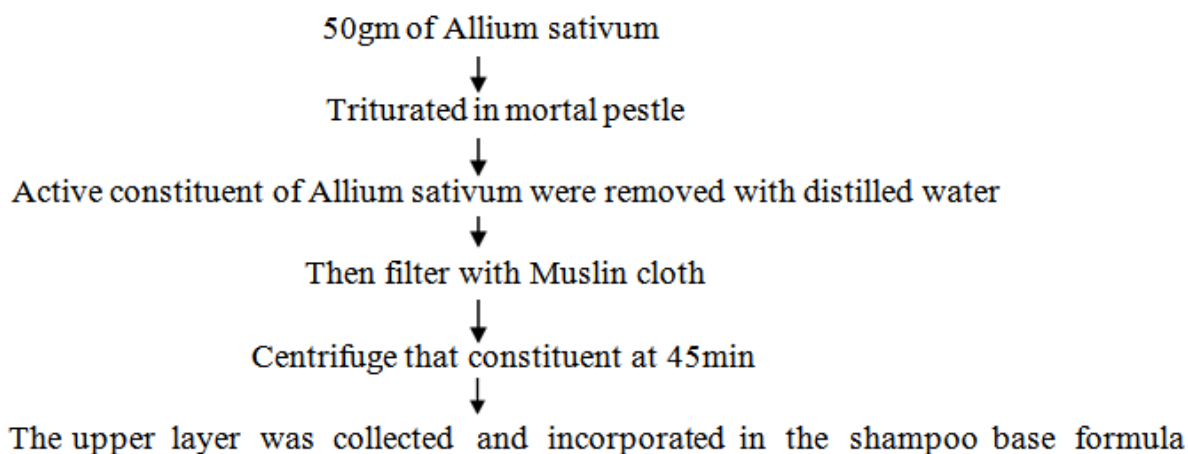
ABSTRACT: In the present study herbal shampoo was formulated containing suitable ingredients such as Garlic (*Allium Sativum*), Glycerin, Ethanol, Methyl paraben, lemon grass oil, coconut oil, Aloe barbadensis, Bhringraj, Shikakai, potassium hydroxide, olive oil, castor oil. The *Allium Sativum*, family Alliaceae possesses antioxidant, antimicrobial, antiviral and anti-inflammatory properties. The formulation with 5% extract showed best results of evaluation parameters. Extract containing was 3 formulations F1, F2, F3.

Keywords: *Allium Sativum*, Bhringraj, Shikakai, lemon grass oil, natural composition.

I. INTRODUCTION:

The aim of the present study was formulated herbal shampoo containing crude drugs like *Alliums Sativum*, family Alliaceae has been reported to possess antioxidant, antimicrobial, anti-inflammatory, antiviral and antiulcer properties.

Extraction of *Allium sativum*:



Garlic and its extracts have been used to treat infection. Shampoos are most probably use as cosmetics. And the most common form of hair treatment. It is a hair care product that is used for cleaning scalp and hair in our daily life. They are viscous solution of detergents containing suitable additives preservatives and active ingredients. It is a hair care product that is used for cleaning scalp and hair in our daily life. They are viscous solution of detergents containing suitable additives preservatives and active ingredients.

II. MATERIAL AND METHODS:

Alliums Sativum (Garlic) were collected from home, and used for the preparation of extract. Extract was used for shampoo formulation potassium hydroxide, glycerin, Bhringraj, Aloe barbadensis, Shikakai, ethyl alcohol, methyl paraben, lemon grass oil, coconut oil, olive oil, castor oil.



Figure 1: Extraction of *Allium sativum*

Preparation of Shampoo:

Take Coconut oil, olive oil, castor oil these oils were saponified with potassium hydroxide by using reflux condenser.

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After completing saponification Glycerin was incorporated with stirring.

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Then adding natural ingredients bhringraj, Aloe barbadensis, lemon grass oil, Shikakai for masking the pungent smell of extract

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Three different formulations making F1, F2, F3 i.e. 5%, 10%, 20% w/w of extract respectively as shown in table.1

Ingredients	Formulation 1(F1 %w/w)	Formulation 2 (F2 %w/w)	Formulation 3 (F3 %w/w)
Allium Sativum extract	5.0	10.0	30.0
Coconut oil	5.0	5.0	1.0
Olive oil	2.0	2.0	3.0
Castor oil	3.0	2.0	3.0
Ethanol	3.0	2.0	3.0
Bhringraj	0.01	0.02	0.03
Shikakai	0.01	0.02	0.03
Coconut oil	5.0	5.0	10.0
Aloe barbadensis	0.01	0.02	0.03
Shikakai	0.01	0.02	0.03
Lemon grass oil	0.05	0.10	0.10
Glycerin	2.0	3.0	4.0
Potassium hydroxide	2.0	4.0	3.0
Distilled water	100	100	100

Table1. Formulation Table Characterization foaming formulation:

1% shampoo formulation by mixing with 100 ml of distilled water. 100 ml of measuring cylinder shake the shampoo and slowly added water. After mixing of shampoo evaluation parameters were determined.

P^H of shampoo formulation:

1% shampoo solution was used to determine the P^H by using the P^H meter.

Percentage of solids:

First weigh the dry evaporating dish and recorded initial weight. 2gm of shampoo formulation was taken in the evaporating dish. Weigh the initial weight of shampoo and dish. Calculate the exact weight of shampoo only recorded initial weight. Put the evaporating dish with hot air oven at 3hrs 15min. and the liquid portion has evaporated. After drying, weigh the dish and shampoo solids and results were noted.

Foam Quality:

Time was recorded foaming shampoo at 1 min. intervals.

Surface tension measurements:

The prepare shampoo in distilled water 5% w/v was evaluated for surface tension (Borosil)

Skin irritation test:

Applied prepare shampoo formulation on skin kept for 10 min observed irritation and redness of skin there were no any red coloration and irritation to the skin.

Stability:

The stability of foam was taken 1% shampoo formulation mixing with 250ml of Measuring cylinder then the shake on 10 times vigorously. The total foam volume was measured after 1min of shaking.

Evaluation of shampoo:

Evaluation Test	Observation
PH	6.5 to 7
Color and Odor	White & Good
Transparency	Clear
Foam Volume	28 ml
Viscosity	0.99 gm/mol
% of Solid content	0.950 gm

Functions of Herbal Shampoo:

1. Cleaning of the scalp skin and hair
2. Healthy hair roots
3. Hair Growth
4. Conditioning

Advantages of Herbal Shampoo

1. Pure and organic ingredients
2. Free from side effects
3. No animal testing

III. RESULT AND DISCUSSION:

All formulation were clear and good characteristics with respect to foaming. Rose oil also includes that formulation. F1,F2 and F3 have found a characteristic smell ,F1 formulation containing 5 % Allium sativum extract were good P^H,Foam Volume And Solid content and we're accepting. The shampoo used as antidandruff, natural antioxidant and maintains the acidic P^H in the formulation. It has been reported to possess antioxidant, antimicrobial, anti- inflammatory, antiviral and antiulcer properties. Garlic and its extracts have been used to treat infection. Shampoos are most probably use as cosmetics. And the most common form of hair treatment. It is a hair care product that is used for cleaning scalpand hair in our daily life.

REFERENCES:

- [1]. Swarnlata Saraf and Sunil M.Hargunde Formulation and Evaluation of herbal shampoo containing Extract of Allium Sativum .Research Journal of topical and cosmetics 2 (1)-2011,ISSN-0976-2981
- [2]. Suyog Bhagwat Formulation and Evaluation of herbal shampoo. International Journal, ofcrative research thoughts.IISN:2320-2882
- [3]. Potluri A, Asma SS, Rallapally N, Durrivel S, Harish GA. Review on herbs used in antidandruff shampoo and it's evaluation parameters. Indi Am J pharm
- [4]. A.R. Mainkar and C.I. Jolly. Department of pharmacognosy, principal K.M. kundnani college of pharmacy, worli , Mumbai.400018. India
- [5]. Indian pharmacopeia III.
- [6]. Organoleptic and physicochemical properties of natural-based herbal shampoo formulations with *Cyclea peltata* as a key ingredient June 2021 Journal of Cosmetic Dermatology 21(4) DOI:10.1111/jocd.14269