

## Preparation and Evaluation of Poly Herbal Anti-Bacterial Soap

Dr. Ojas Patel\*<sup>a</sup>, Ms. Mona Patel<sup>b</sup>, Ms, Pinal Lakhan<sup>c</sup>, Mr. Rahul Dombharya<sup>d</sup>,  
Mr. Hardik Vasava<sup>e</sup>, Mr. Vivek Vasava<sup>f</sup>, Mr. Brijesh Patel<sup>g</sup>

<sup>a</sup> Professor, faculty of Pharmacy, SSSRGI, Vadasma

<sup>b</sup> Assistant Professor, faculty of Pharmacy, SSSRGI, Vadasma

<sup>c-g</sup> faculty of Pharmacy, SSSRGI, Vadasma

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### ABSTRACT

The herbal soap was formulated by using leaf of neem, aloe vera, tulshi, vit-c, tocopheryl acetate. Ayurvedic cosmetics is very helpful and does not give it side effects. Ayurvedic cosmetics are also known as herbal cosmetics. All herbal ingredients are easily available in market of surrounding areas. Neem has gives more medicinal properties, neem leaves and their chemical constituent have been demonstrated to exhibit anti inflammatory, anti hyperglycemic, antiulcer, antimalarial, antifungal, antibacterial, antimutagenic and anticarcinogenic property. Aloe plant produces substance used in cosmetics products it used treat burn the skin conditions psoriasis and even acne. Herbal soap preparation is a medicine or drug like medicinal properties like antibacterial antifungal bring the skin and may property. The crude drug which used in the soap preparation is given many property medicine or cosmetics. The plant used in soap preparation is able to soft the skin epidermis enhance greater penetration remove acne as well as promote healing and resolution in quickly time.

**Keyword:** Herbal Soap, Neem, Tulshi, Vit.E.,

Aloevera, Turmeric, Antifungal, Antibacterial

### I. INTRODUCTION

Herbal soaps are gaining popularity among consumers due to their natural and gentle properties. The use of plant extracts in soap making has been practiced for centuries, and it is still prevalent today. This content gives it common property or many positive effect on the skin neem is the mostly effective because it's show many property like antibacterial antifungal or many skin problem. The neem leaves, tulsi, alovera etc used in the soap preparation. Soaps are a very common vehicle for application of these medicinal plants for external use in the treatment of skin diseases.

Herbal soaps are 100% organic and offer plant extracts which contain important oils. When extracted with steam distillation or cool compression, they add to skincare benefits still further. Herbal soap is used for cleansing, nourishing, aromatherapy, skin conditioning, moisturizing, soothing and calming, anti-aging effects, cleansing and detoxifying etc.

### II. EXPERIMENTAL:

1.1 Materials Used:

2.1.1 Ingredients used for Poly herbal Antibacterial Soap:

Sr.No.	Ingredient	Quantity taken
1	Soap Base	12gm
2	Paraffine Wax	5gm
3	Neem extract	5ml
4	Tulsi extract	3ml
5	Alovera	2gm

6	Vitamine E	1piece
7	Turmeric	0.5gm
8	Tomato juice	1ml
9	Sodium Lauryl sulfate (SLS)	2.5gm
10	Lemon Oil	1 ml

Table 1 Ingredient Used in Herbal Soap

2.1.2 Chemical used of Poly herbal antibacterial soap:

Sr. No.	Chemical	Source
1	Glycerine Soap base	Laboratory reagent
2	Sodium lauryl Sulfate (SLS)	Laboratory reagent
3	Lemon oil	Laboratory reagent
4	Paraffine wax	Laboratory reagent

Table 2 Chemicals used

2.2 Methodology

2.2.1 Maceration process of Neem:

Neem (*Azadirachta indica*) leave collected from local market



These sample were washed ,dried in shade and powdered.



10g of each powdered was added separately in 100ml of methanol.



Mixture keep for 24 hours at room temperature and stirring occasionally



Mixture was filtered and extracted for the further used.

2.2.2 Maceration process of Tulsi:

Tulsi leave collected from local market



These sample were washed ,dried in shade and powdered.



10g of each powdered was added separately in 100ml of methanol



Mixture keep for 24 hours at room temperature and stirring occasionally



Mixture was filtered and extracted for the further used.

### 2.2.3 Procedure for Poly Herbal Antibacterial Soap:

The glassware is sterilized by dry heat sterilization technique.



About 12 gm of glycerine soap base was weighed and placed in to the 250ml beaker and melted.



During the process add a paraffin wax and also melte with them.



Continuous stirring and add neem extract ,tulsi extract & turmeric powder and also aloe vera, tomato juice, Vitamine E and Sodium lauryl sulfate (SLS).



The prepared mixture was stirred 10 minutes.



For good smelling add lemon juice.



After the processe, the liquid formuation are transferred in to mould for solidification.



Figure 1 Prepared Herbal soap

### III. EVALUATION PARAMETERS

#### 3.1 Organoleptic evaluation:

A. Color: Colour was checked by naked eye.

B. Shape: Shape was checked by eye.

C. Odour: The smell of formulation was checked by applying preparation on hand and feels the

fragrance of perfume.

3.2 Determination of pH:

The pH of the prepared soap was assessed by touching pH strip to the freshly formulated soap and jointly by dissolving 1g in 10ml water with help of digital pH meter.

3.3 Foam Height:

0.5 gm of sample of soap was taken dispersed in 25ml distilled water. Then transferred it in to 100ml measuring cylinder, volume was make up to 50 ml with water. 25 strokes were given and stand till aqueous volume measured up to 50ml

and measured the foam height, above the aquous volume was measured.

3.4 Foam Retention:

25ml of 1% soap solution was taken in to a 100ml graduated measuring cylinder . The cylinder was covered with hand and shaken 10 times. The volume of foam at 1 minutes intervals for 4 minutes was recorded.

3.5 Irritation :

It is carried out by applying soap on the skin for 10 minutes .If no irritation then it is considered as non-irritation product.

**IV. RESULTS:**

4.1 Physicochemical parameters:

Sr. no.	Evaluation Parameter	Observation
1	Colour	Brown
2	Odour	Pleasant
3	Shape	Oval
4	Texture	Smooth
5	pH	9.5
6	Foam Height	1.1cm
7	Foam Retention	2 min 10 sec
8	Irritation	Non irritant

Table 3: Physicochemical Parameters

4.2 Irritation Test: No irritation on skin.

Sr. No.	Parameter	Observation
1	Irritation	Nil
2	Swelling	Nil
3	Redness	Nil

Table 4: Irritation Test

**V. CONCLUSION**

In the present work antibacterial herbal soaps were prepared with suitable size and shape, thickness, weight, and with good foam producing ability. Herbal soaps of neem and tulsi were prepared for their anti-bacterial activity for the treatment of pimples, acne and scars. The formulation were characterized for different evaluation parameters like color, odour and shape.

Also foam retention, pH in which they exhibited satisfactory results. The herbal soap showed a good appearance with green color and with a pleasant aromatic smell and showed good anti-bacterial properties. Based on the study it can be concluded that herbal products can be effectively formulated in the form of medicated herbal soaps by using cold process technique with excellent anti-bacterial properties.

### REFERENCE

- [1]. Grace X. F, Sowmya K.V, Darsika C, Polyherbal Hand Sanitizer Formulation and Evaluation, Indian Journal of Pharmacy and Pharmacology, 2015;2(2):143-144.
- [2]. Tortora G. J, Grabowski S. R. Principles of Anatomy and Physiology. 10<sup>th</sup> edition, published by John Wiley and Sons; 2003,140-143.
- [3]. Sunhyo R, Peter I.S, Chang H. S, Hyeon sook C, Yoon kyung P, Colonization and Infection of the Skin by S. aureus Immune System Evasion and the Response to Cationic Antimicrobial Peptides, International Journal of Molecular Science, 2014;15(5):8753–8772.
- [4]. Choudhari S, Sutar M, Chavan M, Formulation Evaluation and Antibacterial Efficiency of herbal hand wash, Indo American Journal of Pharmaceutical Research, 2016;6(4):5202-2503.
- [5]. Saad A. H, Gamil S. N, Kadhim R. B, Samour R, Formulation and Evaluation of Herbal Hand Wash from Matricaria chamomilla Flowers Extracts, International Journal of Research in Ayurveda and Pharmacy, 2011;2(6):1811-1813.
- [6]. Ruckmani K, Krishnamoorthy R, Samuel S, Kumari H. L. J, Formulation of Herbal Bath Soap from Vitexnegundo Leaf Extract, Journal of chemicalandpharmaceuticalsciences,2014; 13(2):95-6.
- [7]. Sharma A, Yadav R, Guha V, Soni U. N, Patel J. R, Formulation And Evaluation of Herbal Hand Wash, World Journal of Pharmacy and Pharmaceutical Sciences, 2016;5(3):675-683.
- [8]. Londhe J, Jagpat S. D, Doshi C, Formulations of Herbal Hand Wash with Potential Antibacterial Activity, International Journal of Research in Advent Technology, 2015;21:11-12.
- [9]. Rangari V. D, Pharmacognosy and phytochemistry, 2nd edition reprint, career publication, Nashik, may 2012,115.
- [10]. Majekodunmi S. O, Essien A. A, Development and evaluation of antimicrobial herbal formulations containing the methanolic extract of Cassia alata for skin diseases, Journal of Coastal LifeMedicine,2014;2(11):872-875.
- [11]. Kokate C. K, Purohit A. P, Gokhale. B, Pharmacognosy, 29<sup>th</sup> edition, published by Nirali Prakashan, Pune, 2009.
- [12]. Ragnar. D, Pharmacognosy and phytochemistry. 2<sup>nd</sup> edition reprint, Volume 1<sup>st</sup>, published by career publication, Nashik, 2012,115.
- [13]. Londhe J, Jagtap S. D, Doshi C, Jagade D, Formulations of Herbal Hand Wash with Potential Antibacterial Activity, International Journal of Research in Advence Technology, 2015;31:11-14.
- [14]. Moghadamtousi S. Z, Kadir H. A, Hassandarvish P, Tajik H, Abu bakar S, Zandi K, A Review on Antibacterial, Antiviral and Antifungal Activity of Curcumin, Bio Med Research International, 2014;18:1-12.
- [15]. Khadbadi S.S, Deore S.L, Bhaviskar B.A. Experimental phytopharmacognosy A Comprehensive Guide, 1st edition, Published by Nirali Prakashan, 2011