

Formulation and Evaluation of Poly Herbal Soap

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ABSTRACT : This research was to formulated and evaluated poly herbalcrafted with a unique blend of natural ingredients to provide you a refreshing bathing experience. Our soap combines the goodness of coconut, nutmeg, neem, and aloe vera which are carefully selected for the beneficial properties for skin health. These soaps also contain coconut oil which is generally not use in commercial soap, coconut is known for its moisturizing properties it helps to hydrate and nourish the skin, leaving it soft and supple.

Keywords: Poly-Herbal soap, Nutmeg, Neem, Aloe vera, Coconut oil, Vitamin E.

I. INTRODUCTION

Soap is a mixture of sodium salts of various naturally occurring fatty acids. If the fatty acid salt has potassium rather than sodium, a softer lather is the result. Soap is produced by saponification or basic hydrolysis reaction of a fat or oil. Most commercial soaps

Some of the natural soap manufacturers also use aromatherapy and herbal treatments to offer the best skin treatment solution for your skin. Made of rare herbs and 100% natural ingredients, herbal soaps are found to be highly beneficial for the skin.

The herbs infused in these soaps have therapeutic and healing characteristics that offer specific benefits to the skin, such as nourishment, strength, healing, and moisturizing. These soaps also contain super fatty oils, Vitamin E, Aloe, and essential oils that are allied to the goodness of skin and overall health.

II. INGREDIENTS

- Ingredients used along with its properties:

SR NO.	INGREDIENTS	USES
1.	Nutmeg	Oral Care, Treats Sleep disorder, Hepatoprotective Activity, antioxidant, treat swelling, sores inflammation, joint pain, muscle spasms and pains .
2.	Neem	Destroy Cancerous Cells, Destroy Harmful Bacteria, Natural anti-bacterial property, Fights acne and pimples.,

• IMPORTANCE OF POLYHERBAL SOAP

Cleansing agent: which remove the dust, dead cells and dirt that choke the pores on the skin, some of the common cleansers include vegetable oils like coconut, lavender oil.

Moisturizing: The moisturizing helps the skin to become soft and supple. Moisturizing shows a healthy glowing skin.

Natural Skincare: Poly herbal soaps are made from natural ingredients, reducing the exposure to synthetic chemicals and detergents found in many traditional soaps. This can be particularly beneficial for those with sensitive skin or allergies to certain chemicals.

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Cultural and Traditional Significance: Many poly-herbal soaps draw on traditional recipes and herbal knowledge passed down through generations. Using these soaps can help preserve and celebrate cultural heritage and traditional practices.

Enhanced Skin Health: The natural ingredients in polyherbal soaps can provide essential nutrients to the skin, such as vitamins and antioxidants, which can help in skin rejuvenation, improving skin texture, and reducing signs of aging.

		Yogic Benefit- neem generates heat in the body.
3.	Aloe vera	detoxification, good for skin, good source of nutrients, improves immune system, aids in weight loss, improves energy amounts, good for dental health; anti-inflammatory, skin protection, anti-bacterial, antiviral and antiseptic.
4.	Coconut	highly nutritious, antibacterial effects, promote blood sugar control (low in carbs and high in fiber and fat), powerful antioxidants, moisturizing agent, cleansing agent.
5.	Lavender oil	It naturally reduces inflammation, lessens pain, and cleans the surface of the skin.
6.	Vitamin E	prevents and treats low levels of vitamin E in your body. Vitamin E is an antioxidant, which helps to protect your cells. Vitamin E plays an important role in maintaining the health of your blood cells, brain, eyes, and skin.

III. FORMULATION

INGREDIENTS	F1	F2	F3	F4
COCONUT OIL	–	55 ml	72 ml	76ml
JASMINE OIL	–	12ml	–	–
NAOH	–	29.5gm	29.5gm	24gm
SLS	–	10gm	15gm	18gm
NUTMEG	5ml	8ml	5ml	5ml
ALOE VERA	5ml	5ml	5ml	5ml
NEEM	5ml	5ml	5ml	5ml
VITAMINE E	0.08gm	0.08gm	0.08gm	0.08gm
GLYCERINE SOAP BASE	100gm	–	–	–
LAVENDER OIL	–	7ml	2ml	5ml

IV. METHOD USED IN FORMULATION

EXTRACTION METHOD

NUTMEG EXTRACTION:

- collection of nutmeg wash with water and dried at room temperature
- Firstly, placed in motor pistol then ground in mixture till fine particle
- 10 gm nutmeg powder + 100 ml of acetone
- placed in dark place for 24 hr.
- Boiled and filtered
- extraction is placed in tight container for further use

NEEM EXTRACTION:

- Fresh neem leaves were taken and washed with water

- wet leaves are ground in mixture
- Filtered and sun dried
- 10 gm of dry neem powder + 50 ml water for 24hr (maceration process)
- Boiled and filtered
- extraction is placed in tight container for further use

ALOEVERA EXTRACTION:

- Fresh aloe vera leaves was taken and washed with water
- cut matured leaves of the plant from the base and stand them upright for 15 to 20 minutes to drain the sap
- Cut off the two sides of the leaf and then make slices of the leaf.

- Grind this matrix in a blender or mortar pistol and filter with thin and soft cloth
- Fresh Aloe vera gel

EXPERIMENTAL METHOD

- Beaker-1: 72 ml coconut oil in 500 ml of beaker (Heated in water bath at 70°)
- Beaker-2: 29.5 gm NaOH + 40 ml distilled water heated in 70°
- Now add beaker 2 into coconut oil which was maintained at same temperature
- Stirrer and remove beaker from water bath slowly.
- Mixture was thickened then add herb extract of 5 ml each of nutmeg, neem and aloe vera.
- 15gm SLS add and stirrer (vigorous stirring avoid)
- Pour into moulds (3-4 days)

V. EVALUATION PARAMETER

1.Physical characteristic:

The color and odor of the prepared soap were observed with naked eye keeping it on white background. The order of the soap was smelled.

2.pH determination:

The pH was determined by using pH paper, the pH found to be 6-7.

3.Foam height

- 5 gm of soap in 25 ml distilled water.
- Transfer in 100 ml measuring cylinder.
- Make up volume till 50 ml.
- Shake 25 time allow to stand
- measure foam height.

4.Foam retention

- Soap solution (1%) was prepared by dissolving soap in distilled water.
- 25 ml soap mixture shake 10 times in measuring cylinder.
- Recorded for 10 min at 1 min interval.

5. Moisture matter

- 5 gm soap placed in an oven for 2 hrs. at 105° and repeated until a constant weight was obtained and the % moisture calculated.

6. Total fatty matter [TFM]

- 10g soap dissolve in 150ml of distil water [heat]
- 20ml of H2SO4 Add while heating until clear solution
- Add 7gm bee wax and heat again
- Allow to cake formation.
- Cake removes dry weight and calculation.

VI. RESULT AND DISCUSSION

VII. CONCLUSION

SR.NO	EVALUATION PARAMETER	F1	F2	F3	F4
1	Color	Light brown	Off white	White	White
2	Odor	Fair	Strong	Unpleasant	Aromatic
3	Shape	Rectangle	Rectangle	Rectangle	Rectangle
4	pH determination	6	8	8	7
5	Foam height	9cm	10cm	9cm	11cm
6	Foam retention	4min	3min	4min	6min
7	Moisture matter	19.4%	11.11%	25%	8.69%
8	Total fatty matter [TFM]	62%	55%	60%	65%
9	Irritation Test	No irritation	No irritation	No irritation	No irritation

This poly herbal soap combining nutmeg, neem and aloe vera offers a potent blend of natural ingredients known for their various skincare benefits with its antibacterial, antifungal, antioxidant, and moisturizing properties, this soap

can effectively cleanse, nourish, and refresh the skin. Regular use may promote healthier-looking skin, address skin issues like acne and inflammation, and contribute to overall skincare wellness. The results show that the soap possesses

moderate antimicrobial activity. The objective of this study is to formulate poly herbal soap for the beautification purpose. Hence, this study is concluded as the formulated poly herbal soap can be used as for the cleansing and beautification purpose. However, individual results may vary, and further research or testing may be necessary to fully assess its efficacy and potential benefits.

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