

International Journal of Advanced Research in Science, Communication and Technology

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 5, Issue 6, May 2025



Formulation and Evaluation of Milk Cleansing Soap

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Abstract: Most of the commercial Soaps contains chemicals that can be harmful to the skin .use of nature herbal soap can be a good alternative. Herbal products have become an item of global importance both medicinally and economically and usage of herbal products has increased, their safety and efficacy. "Introducing a nourishing milk cleansing soap that gently cleanses and moisturizes the skin. Enriched with milk and natural ingredients, this soap helps to soften, brighten, and even out skin tone, leaving skin feeling smooth and refreshed the moisturizing properties of milk with the gentle cleansing power of natural ingredients. Suitable for sensitive skin, this soap helps to hydrate, soothe, and protect the skin, promoting a healthy and radiant complexion.

Keywords: poly herbal milk cleansing soap, evaluation, saponification, nourishment, moisturizing

I. INTRODUCTION

Soaps are water soluble sodium or potassium salts of fatty acids. Soaps are made from fatsand oils by treating them chemically with a strong alkali soap is different the way in which people commonly used the word. Soap are exempt from the provisions of food drug and cosmetics act because even though section of the act include "article for cleansing" in the identification of cosmetics. Most commercial soaps are available in Market incorporated with chemical agent's having antimicrobial activity with potential depilatory properties on skin pathogen. Soaps are regarded as disinfectant required in daily practice hygiene. Soaps are cleaning agent which may solid, liquid, semi-solid, powder they are used to remove dirt, include dust, micro-organism stains, bad smell to maintain health, beauty and bad odour from body. The drawbacks of commercial soaps now people led more inclined towards the herbal formulation. Herbal soaps do not contains artificial colours flavour etc., As compared to the contents of commercial product. herbs eir high medicinal value. The attributes of soaps include gentleness on the skin, rich lather, protection against skin disorder, treatment of skin infection, protection of skin tonning and smoothness of the skin.

Turmeric is an important natural source of yellow pigment, spice, neutraceuticals, and herbal medicine. Turmeric is the common name used for the curcumalongal plant and it belong to family zingiberaceae.

Honey is the natural humectant that can help retain moisture in the skin. It contains antioxidant that can help protect the skin from damage caused by free radicals.

Almond oil is rich is in fattyacids and vitamins making it an exceuent moisturizer for skin almond oil contains vitamins A,B & E which can help nourish and protect the skin. Almond oil can be used as moisturizer. Also can help soften and moisturize dry, rough skin.

Various skin types are normal, oily, dry, combination or sensitive skin types. Factors like pH of soap and ingredients used as surfactants, high leather forming agents, giving rise to the concept of the acid mantle. Studies have shown that potential of hydrogen (pH) of skin increases in proportion to the pH of cleanser used. Increase in pH causes and increase in dehydrative effect, irritability and Propionibacterium count. Changes in the pH are reported to play a role in the pathogenesis of some skin diseases. Therefore, the use of skin cleansing agents with a pH of about 5.5 may be of relevance in the prevention and treatment of those skin diseases. Unfortunately, pH is not mentioned in the labels of many products.

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DOI: 10.48175/568





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CLASSIFICATION OF SOAPS

- Based on usage
 - 1. Toilet soap
 - 2. Non toilet soap
 - 3. Glycerin soap
 - 4. Transparent soap
- Based on form
 - 1. Handmade soaps
 - 2. Bar soaps
 - 3. Liquid soaps
- Based on ingredients
 - 1. Milk Soap
 - 2. Animal Soap
 - 3. Luxury Soap
 - 4. Perfume

• Based on method of manufacture

- 1. Melt and Pour Method
- 2. Hot Press Method and Cold Press Method
- 3. Milling Method

Drug/plant profile

Table 1: Drug/plant profile

Sr.	Drug/Plant	Biological	Parts used	Chemical	Use
	Common name	Name		Constituents	
1	Tuermeric	Curcuma	Rhizome/Roots	Curcumin,	Luminous skin increases
		longa		Turmerone,	headling aids in treating
				Volatile Oil,	psoriasis reduces the
				Resin etc	appearance of acne scars could
					cure scabies. Other skin
					disorders might benefit.
2	Saffron	Crocus sativus	Stigma	Nthocyanins,	It treats dark spots and aids in
		L		flavonoid and	the battle against acne,
				terpenoids. Etc.	pigmentation, and
					inflammation. Additionally, it
					is abundant in vitamins,
					mierals, and antioxidants that
					help improve skin tone.
3	Coconut Oil	Cocos	Oil	Fatty acids,	There are many ways that
		nucifera		Caprylic acid,	coconut oil can be good for
				Capric acid,	your skin. Your skin may
				Lauric acid,	become more hydrated,
				Myristic acid,	irritation may be reduced,
				Palmitic Acid,	wounds may heal more
				Stearic Acid,	quickly, and acne may be
				Oleic Acid,	treated.
				Linoleic Acid,	
1				Etc.	

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4	Almond Oil	Prunus	Oil	Leic a	acid,	Improves skin tone and
		Amygdalus		stearic a	acid,	complexion, treats dry skin,
		Dulcis		linoleic a	acid,	lessens the appearance of
				palmitoleic a	acid	under-eye bags and puffiness,
				and palm	nitic	and treats acne. Aids in
				acid etc.		repairing solar damage,
						decreases the appearance of
						stretch marks and scars.

II. MATERIAL/PROCEDURE METHOD

Preparation of milk solution

Table 2: Preparation of	of Milk	solution
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Ingredients	Quantity
Dried milk	3 gm
Water	25 gm

Formulation of Herbal milk soap

Table 3: Formulati	on of Herbal milk soap
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Ingredients	Quantity	Uses
Milk poweder	3 gm	Moisturizing exfoliating, antiaging
Saffron	0.20 gm	Anti-bacterial
Coconut oil	17 gm	Moisturizer
Almond oil	3.24 gm	Anti-aging
Soap base	11.31 gm	Alkali metal hydroxides

Procedure

The process for making milk solution as follows :

- 1. Measure the Milk Powder
 - Use 1–3% of your soap weight. For 100g soap, that's 1g to 3g milk powder.
- 2. Dissolve the Powder.
 - In a small bowl, add the milk powder.
 - Add 1-2 teaspoons of warm distilled water (or oil if making cold process soap).

The following is the process for making herbal soap:

Step-by-Step Procedure:

1. Prepare Saffron Infusion (Optional but beneficial) Soak 3–5 strands of saffron in 1 tsp warm water or milk for 10–15 minutes to release color and aroma.

2. Melt the Soap Base Cut 100g of melt & pour soap base into small cubes.

Melt using: Double boiler (preferred) or Microwave in 15-second bursts, stirring in between until fully melted.

3. Add Milk Powder Mix 2g milk powder with a little warm water (1 tsp) to form a smooth paste. Add the paste to the melted soap and stir well to avoid lumps.

4. Add Honey Add termaric coconut oil, Almond oil, vitamin e-capsule Add 1-2g of honey and stir until fully dissolved.

5. Add Saffron Pour in your saffron infusion (with or without the strands). Stir gently for even distribution.





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6. Add Fragrance (Optional) Add 2-3 drops of skin-safe fragrance or essential oil. Stir well.

7. Pour into Mold Gently pour the mixture into your soap mold. Tap the mold lightly to remove air bubbles.

8. Let It Set Allow the soap to cool and harden at room temperature (2-4 hours) or refrigerate for 1 hour.

9. Unmold and Cure Once set, remove from mold. Melt & pour soaps are ready to use immediately but improve with 1–2 days of drying.

III. RESULT AND DISCUSSION

The creation and assessment of polyherbal soap was completed. The prepared soap's physicochemical characteristics were identified. The formulations showed satisfactory visual characteristics, and their pH values were within the specified range of 8.7. The percentage of free alkali, foam height, foam retention, alcohol-insoluble materials, and thermal stability were among the other parameters measured. The results of the various parameters are tabulated. The total amount of fatty matter in a manufactured soap is a good indicator of its quality. It is not ideal for dry skin if the total fatty matter is reduced. The human body experiences certain adverse effects from chemically produced soap. Comparing herbal soap to chemical soap, the former has less adverse effects. It also functions as soap that fights bacteria and microbes.

Sr. No.	Physicochemical parameters	Observation
1.	Physical Apperance	Pale Yellow
2.	Odour	Pleaseant smell
3.	Texture	Solid & smooth
4.	% free alkali	0.27
5.	Foam height (cm)	2.5 cm
6.	Foam retention	15 min
7.	Alcohol insoluble matter	18.0
8.	Ph Determination	8.7
9.	Thermal stability	Stable ar toom temperature soap melt at 60c
10.	Saponification value	161.27/ml

Table 4: Physiochemical evaluation of formulated herbal soap

IV. CONCLUSION

Our team eventually produced the results and formulation needed to create the poly herbal soap that is free of dangerous chemicals during the course of this project. Cold process method was used to make poly herbal soap. The developed formulation exhibits favourable physical properties. Based on its evaluation criteria, the formulation offers outstanding foaming properties and is free of alkali components. The results of the microbiological analysis reveal a formulation with antibacterial properties through antimicrobial activity. Therefore, it can be concluded from the study research that polyherbal can be efficiently made as soap that has excellent antibacterial properties on the skin. When the created polyherbal soap mixture was put through several tests, it performed well. By utilising these soaps, it was discovered that they do not irritate skin in any way; therefore, it is proven that soap does not in-itate skin in any way.

V. FUTURE SCOPE

The potential herbal soap from this study can be commercialised to improve formulation quality.

VI. ACKNOWLEDMENT

I would like to our sincere thanks Principal Dr. Yogesh S. Bafana sir & Asso. Prof. Mrs.Galgate K.M. for providing the required facilities for the completion of the present work.

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REFERENCES

- [1]. Kuril M, Yadav Y, sahil A.K, Shukla k, Formulation and evaluation of polyherbal soap, Volume I issue I july 2020 in journal of innovation and invention in pharmaceutical science (JIPPS). [CrossRef].
- [2]. Varsha M. Chaudhari, studies on antimicrobial activity of antiseptic soap and herbal soap against selected human pathogens, on 26 Nov 2016, journal Of scientific and innovative research. [CrossRef].
- [3]. Saba Riaz, Adeel ahmad and shahida Hasnain antibacterial activity of soap against daily encountered bacteriae ,african journal of biotechnology vol 8 (8) pp. 1431-1436 , 20 April 2009. [CrossRef].
- [4]. Sylavapus Akpakupula ,Emmnuel E. Bassey and uchenna Eze ije, antiseptic soap and body cleansing agent and it's effect on normal flora of the human skin, world journal of pharmaceutical and medical research, vol 7 issue 4, 2021. [CrossRef].
- [5]. A.Fathima, sujith varma, p.Jagannath, m. Akash, General review on herbal cosmetics, International journal of drug formulation and research, volume 2 issue, 5 sep oct 2011. [CrossRef].
- [6]. Ashlesha ghanwat, sachin wayzod and vanjire divya, formulation and evaluation of herbal soap, trends pharmacy and Pharmaceutical chemistry, <u>http://ecurrentscience.com/journal/e/CTPPC[CrossRef]</u>.
- [7]. G.Sucharita ,V.Ganesh , B.Shiva krishna , D.Sireesha , S.Pavan kumar, N Sai Sasidhar , S.Revathi Dr.P.Venktesh , Formulation and Evaluation of Polyherbal antibacterial soap , volume 10 issue no.8 August 2020. [CrossRef].
- [8]. Satish kumar Sharma , suruchi Singh , antimicrobial herbal soap formulation , 32(36): 82-88 2020. [CrossRef].
- [9]. Evaluation or Poly Anti Bacterial soap G. Sucharita, Ganesh. B. Siva Krishn. Sireesha. S Pavan kumar, N. sai SLLsidhar. S. Revathi, Dr. P. Venkatcsh,IJESC Volume IO. issue no 8.2020.
- [10]. Formulation development and antimicrobial evaluation or polyherbal soap, Archives journal Rakesh k. Sindhu•, Mansi Chitkara. Gagandeep Kaur. Arashmcet Kaur. Sandeep Aroras Sandhu. vol. 19. Supplement 2.2019 pp. 1342-134. [CrossRef].
- [11]. Development and Evaluation or Antibacterial Polyherbal soap Seema U. Shinde,-, Nikita D. Gidde ; Jamir. A. Tamboli, of Pharmaceutical Sciences and Medicine Issue. 5, May- 2021, pg. 45-52. [CrossRef].
- [12]. Development and Evaluation of Antibacterial Polyherbal soap . Pravin V. Gomasc•, MO. Javed Ahamad. Mohd Danish Salahuddin. Deshmukh N. l, Khan G. J.IJPPR June 2019 VOL:IS. Issue:3. [CrossRef].
- [13]. Ruckmani K, Krishnamoorthy R. Samuel S. Linda H. Kumari J. Formulation of herbal bath soup from Vitex negundo leaf extract. J Chern Phanu Sci 2014; 2974-2115. [CrossRef]
- [14]. Mohanapriya M, Ramaswamy Rajendran R. Health And Medicinal Properties Of Lemon (CitrusLimonurn). Inter J or Ayur and Herbal Med. 2013 100. Available from: http://interscience.org.uWv3-i I -ijahm .pdf [CrossRef].
- [15]. Klimek-Szczykutowicz M, Szopa A, Ekiert 11. Citrus limon (Lemon) Phenomenon-A Review of the Chemistry, Pharmacological Properties, Applications in the Modern Pharmaceutical, Food. And Cosmetics

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Industries. and Biotechnological Studies. Plants. Available from: http://www.mdpi.com/2223-7747/9/I!11 Whtm [Cros.Ref].

- [16]. Algrech, C. The ofQuercy. Rev. Quercy Rech. 200', 97, 20-27.
- [17]. Lage. M.; Fai7— Cantrell, C. L. Developmental project ror introducing saffron (Crocus L) as an alternative crop in other Moroccan regions. In Proceedings of the 2nd International Symposium on Saffron Biology and Technology, Masshad, Iran, 28—30 October 2006; pp. 49—52. [CrossRef]
- [18]. Ameh, A.O., Muhammad. J.A. and Audu, H.G. (2013). "Synthesis and characterization of antiseptic soap from neem oil and Shea butter oil", African Journal of Biotechnology, Vol. 12 NO. 29, pp. 4656—4662. [CrossRef].
- [19]. Garba, I_D.. Sanni. S.A. and Adebayo, C.O. (201 S), "Analyzing the Structure and Performance of Shea Butter Market in Bosso and Borgu Local Government Areas of Niger State, Nigeria", International Journal of and E- Service. Science and Technology, Vol. 8 No, 2. pp. 321—336. [CrossRef].
- [20]. International Journal of Scientific Development and Research (IJSDR) www-ijsdr.org 301 -Formulation and Evaluation of Polyvalent Herbal Cream, Rimi Mondal, Dr. Arvind Negi, Dr. Manish Mishra.February 2021 IJSDR Volume 6 Issue 2 JJSDR2102043. [CrossRef].



