IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Formulation And Evaluation Of Herbal Soap By Using Polyherbs.

[1]Harsha I Raut, [2]Dr. C A Doifode, [3]Dr. Geeta N Lodhi
[1]Assistant professor, [2]Director, [3]Principal
[1]Taywade college of pharmacy, Koradi,
[2]Taywade college of Pharmacy, Koradi,
[3]Taywade college of pharmacy, Koradi

ABSTRACT:-

A herbal soap is formulated by using neem oil, tulsi, turmeric, chandan, vitamin E, rose water, and also tea tree oil for fragnance. Ayurvedic cosmetics are also known as the herbal cosmetics the natural content in the herbs does not have any side effect on the human body. The present work involves the formulation and evaluation of poly herbs soaps. Material and method consist soap base formulation by using cold process method (Coconut oil, NaoH, Glycerin, Distilled water) and formulation of soap procedure. Formula for preparation of herbal soap consist Stearic Acid 1 gm(Hardening), Soft Paraffin 0.70 (Hardening), Ethanol 5ml (Solvent), Neem Powder 5gm (Antibacterial), Tulsi1gm (Natural Immunity Booster), Chandan 0.5gm (Astringent), Turmeric 0.5 (Anti-Inflamatory), Vitamin E 3gm (Healthy Skin), Rose Water 2ml (Soothes Skin Irritation), Tea Tree Oil 5-8 Drops (Perfume).

To evaluate these preapre soap there is some evaluation parameter i.e.. pH, shape, colour, odour, foam height, foam retention. And in result preapre soap shows green colour, aromatic odour, round circle shape, 6-7pH ,2-3 foam height, and non irritant.

KEY WORDS:- material and method, cold process method, pharmacognostical profile of active ingredients, composition of soap.

1. INTRODUCTION:-

The variety of soap properties have been used to treat various skin disorders[2]. This content gives it common property or many positive effect on the skin. In this research paper herbal soap conataining neem, tulsi, chandan,vitamin e, handi, aleovera, rose water as natural plant ingredients and this content gives or shows antibacterial antifungal & anti-inflammatory activity to prepare this soap some chemicals are also required i.e..steric acid, ethanol, liquid paraffin, caustic soda(NaoH), also distilled water, glycerin and coconut oil. Neem is the mostly effective because it's have many property like antibacterial, antifungal or many skin problem. In this soap, neem is main compound, and shows medicinal properties. Neem leaf and its extract exhibit antifungal, antibacterial, antioxidant property. Tulsi has got the greatest medicinal value. Tulsi reduce inflammation and also shows antifungal activity so, tulsi is also used as main compound in this herbal soap. The main antifungal activity of tulsi serves to be beneficial in soap formulation[3]. Aloe vera has been known and used for centuries for its health, beauty, medicinal and skin care properties. Nowadays most frequently aloe vera used in the field of cosmetology. Aloe vera contain 75 potentially active constituents. Aloe vera is used for the prevent sing of aging , reduce acne, help lighten plamishes, reduce stretch mark, sunburn and moisturiser. Aloe vera is also give smooth and supply skin also treat acne lightens skin tone[4]. Turmeric(curcuma longa) having properties like photo protection, anti- ageing, anti-wrinkle, anti-oxidants, anti-microbial and anti-inflammatory activity[5]. Also chandan powder and vitamin E capsules are used in this soap preparation. Crude preparation of soapy plant are able to soften the skin epidermis enhance greater penetration and cleaning acne and also promote healing. Also resolution in quickly in time. Plant-based remedies mentioned in ayurvedic texts are gaining popularity these days in india due to validation of such therapies with respect to their modern counterparts. In this research paper, herbal soap containing neem, tulsi, chandan powder, turmeric powder, aloe vera gel and vitamin E gel and rosewater as natural plant ingredients and this content gives or shows antibacterial, antifungal & anti-inflammatory activity. In this soap, neem is main compound and shows medicinal properties[6].

2. AIM:-Formulation And Evaluation Of Herbal Soap By Using Polyherbs.

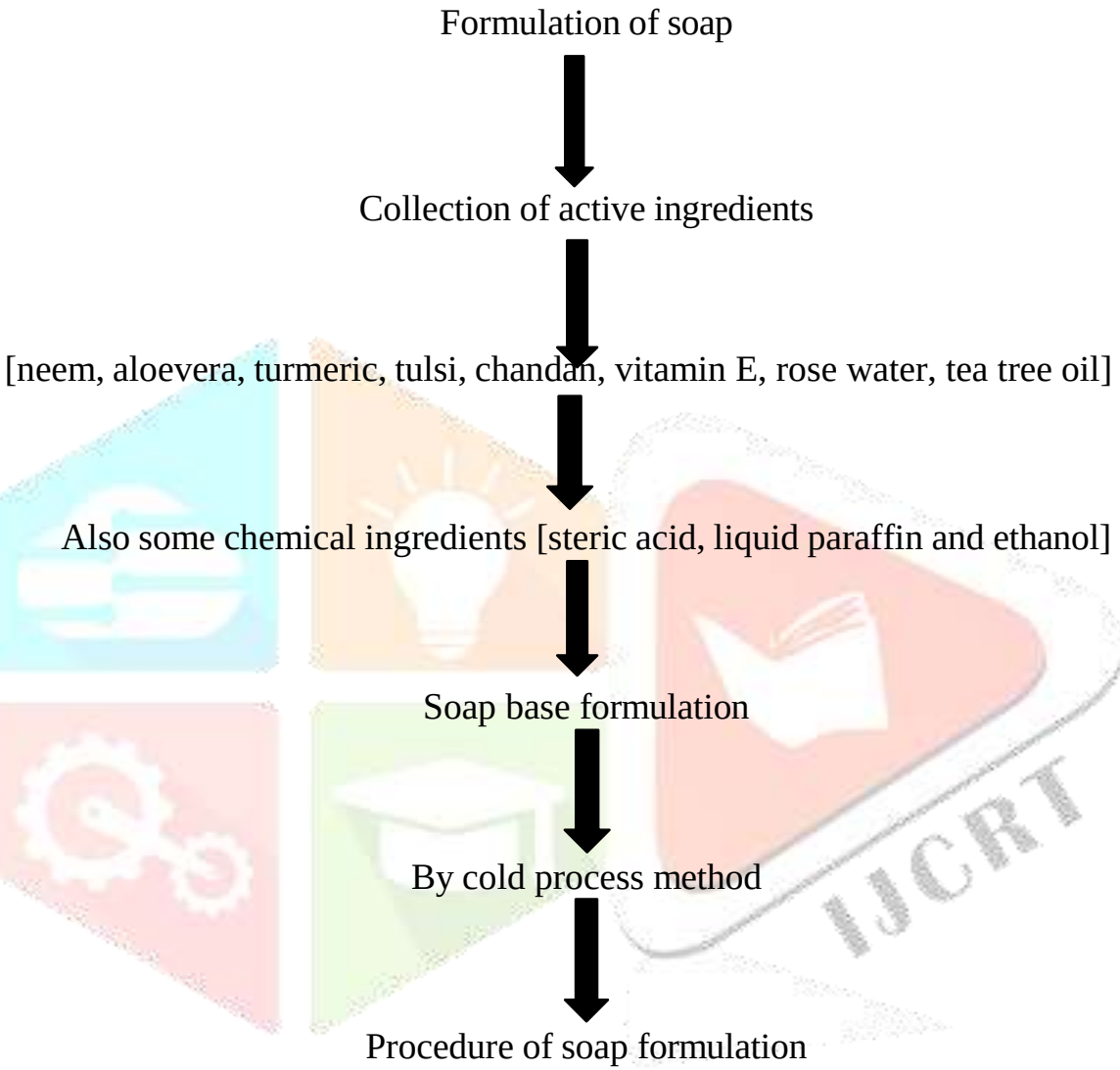
3. OBJECTIVE:-To Prepare And Evaluate Poly Herbal Soap.

4. MATERIAL AND METHOD:-

Collection of active ingredients were collected from different manufacturing company and local market. Rose water purchased from Dabur Pvt.Ltd. taking aloe vera pulp from aloe vera plant, chandan powder, and turmeric are obtained from local market also vitamin E capsule from nearest medical shop, and homemade neem and tulsi powder was used.

Fig no. 1 Above figure represent raw material of soap

4.1. FLOW CHART DIAGRAM



5.2 PHARMACOGNOSTICAL PROFILE OF ACTIVE INGREDIENTS[7,8,9,10].

Table no 1: Pharmacognostical profile of active ingredients.

Sr. No.	NAME	BIOLOGICAL SOURCE	PARTS	CHEMICAL CONSTITUENTS	USES
1.	Neem	adirachta Indica	Seeds	Azadirachtin, Glycerides, Poly Phenols, Triterpenes	Anti-Bacterial, Anti-Septic
2.	Aloe vera	e barbadensis	Pulp	Polymannans, nthroquinone, cglucosides.	rizer and anti- ageing
3.	Turmeric	Curcuma Longa	Rhizomes	Curcumin, Zingiberine	i-Septic And Anti-Inflammatory.
4.	Tulsi	Ocimum Tenuiflorum	Leaves	Eugenol, Germacrce,Terpenes.	Good For Diabetes Patient
5.	Chandan	um Album Tree	Steam	A-Santalol And B-Santalol And Santenone	Antiseptic And Astringent
6.	Vitamin E	-	-	Four Tocopherols (A-, B-, Γ-, And Δ) And Four Tocotrienols (A-, B-, Γ-, And Δ-)	Helps Maintain Healthy Skin And Eyes, And Strengthen The Body's Natural Defence Against Illness And Infection
7.	Rose water	Sepals and petals of rosa × damascena through steam distillation	tals and sepals	Phenethyl alcohol (81.27%), citronellol (5.72%), and geraniol (4.43%)	Soothes skin irritation, Reduces skin redness, Contains antioxidants. Heals cuts, scars, and burns.

5.3 SOAP BASE FORMULATION:-

Table no 2: Soap base ingredient list.

Sr.no.	INGREDIENT	QUANTITY	USES
1.	Coconut oil	75 ml	Anti-ageing, moisturizer
2.	Sodium hydroxide(caustic soda /NaOH)	13.28 gm	Lye
3.	Distilled water	24.75 gm	Aqueous vehicle

5.4 COLD PROCESS METHOD:

Cold process soap making has definitely taken off in the world of cosmetics. Here we take a look at the fabrication process of an authentic surgras soap that is sure to hydrate your skin all year long.For the preparing soap base, take 75 ml of coconut oil in a 500 ml of beaker. Place it on the water bath boil the liquid up to forming strong thickness under the temperature 35-40 C with stirring. And monitor the temperature level by using thermometer. Then take sodium hydroxide or Lye was weighed into a clean beaker and add into the distilled water, again maintain the temperature by using thermometer. Add this solution to the coconut admixture, boil at 35-40 C up to formation of base consistency. Then the mixture can be transfer into soap moulds and keep it the freezer up to 2-3 hours and then after 2-3 hours remove the soap containing moulds from the freezer and allow to 10 minutes without disturbance then soap will be formed[11].

Figure no. 2

5.5 POLY HERBAL SOAP FORMULATION PROCEDURE:-

For preparing polyherbal soap take the required volume of soap base in a 500 ml of beaker and maintain the temperature to heat the soap base on the water bath. Then the soap base will be converts into liquid form and to it 1gm stearic acid, 0.70gm soft paraffin, 5ml ethanol were added. And also add the all ingredients to the above mixt ure. Boil the mixture on the water bath to obtain proper mixture with continous stirring for 30 minutes. Then the mixture poured into the soap moulds and freeze the soap containing moulds up to 2- 3 hours. After 2-3 hours remove the soap moulds from the freeze allow to 5 minutes then soap will be formed[11].

Figure no. 3

5. COMPOSITION OF THE SOAP:-

Figure no. 4

6.1 NEEM

Botanical name:- azadiracta indica

Part typically used:- leaves

Colour:- green

Constituents:- flavonoids, alkaloids, azadirone, nimbin, nimbidin, terpenoids, steroids, margosicacid, vanilic acid, glycosides, b-sitosterol, nimbectin, kaempeerol, quercursertin are present in neem leaf

Uses:- anti-bacterial, antifungal,antioxidant.

6.2 TULSI

Biological name:- Ocimum tenuiflorum

Common name:- holy basil

Chemical constituents:- eugenol, germacrce,terpenes.

Part Typically used:- leaves

Colour:- green

Uses:- natural immunity booster, good for diabetes patient.

Figure no. 5

6.3 ALOE VERA

Biological name:- aloe barbadensis miller **Common name:-** gwa ic acid and amino acid **Part typically used:-** greeen part of leaves

Color:- green

Uses:-moisturizer and anti- ageing.

6.4 TURMERIC

Biological name:- curcuma longa

Common name:- haldi

Chemicals:- non volatile curcuminoids, and volatile oil

Part typically used:- root

Colour:- yellow

Figure no. 7

Uses:- anti-oxidant and anti-inflammatory.

6.5 CHANDAN:-

Biological name:- santalum album tree

Common name:- white or East Indian sandalwood

Part typically used:- steam

Chemicals:- α-santalol and β-santalol and santenone

Colour:- white

Figure no. 8

Uses:- antiseptic and astringent.

6.6 VITAMIN E:-

Chemicals:- four tocopherols (α-, β-, γ-, and δ-) and four tocotrienols (α-, β-, γ-, and δ-)

Uses:-helps maintain healthy skin and eyes, and strengthen the body's natural defence against illness and infection (the immune system).

Figure no. 9

6.7 ROSE WATER:-

Biological name:-sepals and petals of Rosa × d

Parts:-Petals and Sepals

Chemicals:-phenethyl alcohol (81.27%), citronellol (5.72%)

Uses:-Soothes skin irritation,Reduces skin redness,

Contains antioxidants, Heals cuts, scars, and burns.

6. FORMULATION[12] :

The formula shown in table no. 3 below is best suited for the preparation of herbal soaps.

SR. NO.	INGREDIENTS	QUANTITY	USES
1.	Steric Acid	1gm	Hardening
2.	Liquid Paraffin	0.7ml	Hardening
3.	Ethanol	5ml	Solvent
4.	Neem Powder	5gm	Antibacterial
5.	Tulsi	1gm	Help To Improve Acne And In Skin Inflammation
6.	Chandan	0.25gm	Astringent
7.	Turmeric	0.5gm	Anti-Inflamatory
8.	Vitamin E	3gm	Healthy Skin
9.	Rose Water	2ml	Soothes Skin Irritation
10.	Tea Tree Oil	5 – 8 Drops	Perfume

Evaluation Parameter:-

Polyherbal soaps can be evaluated for their physical and chemical properties, as well as their efficacy. The physical properties of the soap can be evaluated by
testing the pH, appearance, and odour. The chemical properties of the soap can be evaluated by testing for the presence of active compounds, such as terpenoids,
flavonoids, and alkaloids.

The efficacy of polyherbal soaps can be evaluated by conducting microbiological assays. Microbiological assays can determine the antimicrobial activity of
the soap against various microorganisms, such as bacteria and fungi. Polyherbal soaps can also be evaluated for their moisturizing properties by conducting
skin hydration tests.

1. Determination of clarity, colour and odour:

Clarity and colour was checked by naked eyes against white background, the odor was smelled.

2. pH:

The pH of all the prepared formulations was determined by using Digital pH Meter.

3. Foam Height:

0.5gm of sample of soap was taken dispersed in 25 ml distilled water. Then, transferred it into 100 ml measuring cylinder; volume was make up to 50 ml with
water. 25 strokes were given and stand till aqueous volume measured upto50 ml and measured the foam height, above the aqueous volume.

4. Foam Retention:

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

5.Primaryskinirritationtest:

7. RESULT:- .

Sr. No.	Parameter	F1	F2	F3	F4
1.	Colour	Light Green	Light Green	Dark Green	Dark Green
2.	Odour	Aromatic	Aromatic	Aromatic	Aromatic
3.	Shape	Round circle	Round circle	Round circle	Round circle
4.	pH	7.1	7.1	7.2	7.5
5.	Foam Height	2.0cm	2.0cm	2.5cm	2.7cm
6.	Foam Rention	4min 17sec	4min 25sec	4min 25sec	4min 45sec
7.	Irritation	Non Irritant	Non Irritant	Non Irritant	Non Irritant

Table no. 4

Figure no .11

(Above figure show the final result of soap formulation)

DISCUSSION:

The above given table describes the colour, odour, shape, pH, irritation, foam height and foam retention of the poly herbal soap. The colour of all the four formulation were dark green. The odour of all the four formulation was aromatic. The shape of all the five formulation was round circle. As per evaluation test formulation F4 is may be the most standard formulation compared to other formulation because the pH of formulation F4 is 7.2 which is likely close to skin pH and there is no irritation beside foam retention and foamability of F4 is may be much better than other formulations.

8. CONCLUSION:-

The prepared polyherbal soap was formulated using cold process technique with antioxidant and Anti-bacterial properties. The anti-bacterial and anti-oxidant properties may exhibit due to the presence of neem, tulsi, turmeric, chandan, aloe vera, vitamin E and rosewater. The designed formulation F4 consisting 75 gm of soap base, 5ml neem oil,1gm tulsi, 0.25gm chandan, 0.5gm turmeric, 3gm vitamin E, 2ml rose water, tea tree oil (5-8 drops) was found to be promising polyherbal soap with anti-bacterial and anti-oxidant properties. The further clinical studies of this formulation can elevate the use of polyherbal soap. The most important thing that polyherbal soap possess is that free from chemicals and are more eminent than synthetic soaps. Thus, in this research paper, the prepared polyherbal soap possess anti-oxidant and antibacterial properties that can be used as beauty regime.

9. REFERENCE:-

1. Ashlesha Ghanwat, Sachin Wayzod and Vanjire Divya; Research Article; Formulation and Evaluation of Herbal soap; Current Trends in Pharmacy and Pharmaceutical Chemistry, April 2020; 2(2): 21-26.
2. Bandyopadhyay, U., Biswas, K., Sengupta, A., Moitra, P., Dutta, P., Sarkar, D., ... & Banerjee, R. K. (2004). Clinical studies on the effect of Neem (Azadirachta indica) bark extract on gastric secretion and gastroduodenal ulcer. Life sciences, 75(24), 2867-2878.
3. Kapoor, V. P. (2005). Herbal cosmetics for skin and hair care.4(4). 306-315.
4. Amar Surjushe, Resham Vasani, and D G Saple; A Short Review; Aloe Vera; Indian Journal of Dermatology, February 2008; 53(4): 163-166.
5. Swarnlata Saraf, Gunjan Jeswani, Chanchal Deep Kaur and Shailendra Saraf; Research Article; Development of novel herbal cosmetic cream with Curcuma longa extract loaded transfersomes for Anti-wrinkle effect; African Journal of Pharmacy and Pharmacology, August 2011; 5(8): 1054- 1062.
6. Saikia A.P., Ryakala V.K., Sharma P., Goswami P., Bora U; Ethnobotany of medicinal plants used by Assamese people for various skin ailments and cosmetics. Journal of Ethnopharmacology, June 2006; 106(2): 149-157.
7. GARIMA PANDEY, KK VERMA, MUNNA SINGH; Research article; Evaluation of Phytochemical, Antibacterial and Free Radical Scavenging Properties of Azadirachta Indica (Neem) Leaves; 2014; 6(2): International Journal of Pharmacy and Pharmaceutical Sciences, 444-447.
8. Malik Itrat, Zarnigar; Review Article; ALOE VERA: A REVIEW OF ITS CLINICAL EFFECTIVENESS; International research journal of pharmacy, 2013; 4(8): 75-79.
9. https://en.m.wikipedia.org/wiki/Almond
10. K.K.Mueen Ahmed, B. M. Gupta, Ritu Gupta; Curcuma longa (Medicinal Plant) Research: A Scientometric Assessment of Global Publications Output during 1997-2016: Pharmacognosy Journal, 2018; 10(5): Sep-Oct, 2018 pp. 998-1006.
11. G. Sucharita, V. Ganesh, B. Siva Krishna, D. Sireesha, S. Pavan kumar, N.Sai Sasidhar, S. Revathi, Dr. P. Venkatesh, Research Article; Formulation and Evaluation of Poly Herbal AntiBacterial Soap; IJESC, 2020; 10(8): 27165-27173.

12. Reddy, Y. R. R., Kumari, C. K., Lokanatha, O., Mamatha, S., & Reddy, C. D. (2013). Antimicrobial activity of Azadirachta Indica (neem) leaf, bark and seed extracts. Int. J. Res. Phytochem. Pharmacol, 3(1), 1-4.

13. Gana manjusha.k, balakrishnaiah.p, syamala.r, mounik.n, ravi chandra; research article; formulation and evaluation of herbal bath soap containing methanolicextracts of three ayurvedic varnya herbs; asian journal of pharmaceutical and clinical research, 2019; 12(11): 213-215.

14. Zeeshan Afsar and Salma Khanam; Research Article FORMULATION AND EVALUATION OF POLY HERBAL SOAP AND HAND SANITIZER; International Research Journal Of Pharmacy, 2016; 7(8): 54-57.

15. Kuril.M, Yadav Y, Sahi A.K, Shukla.K; Research article; Formulation and evaluation of polyherbal paper soap; Journal of innovation and invention in pharmaceutical sciences, 2020; 1(1): 54-57.