



**INTERNATIONAL JOURNAL OF
PHARMACEUTICAL SCIENCES**
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: <https://www.ijpsjournal.com>



Research Paper

Tridax Procumbens Herbal Soap: A Natural Remedy for Skin Health

Vaishnavi Surve*, Aditi Tikait, Dr. Swati Deshmukh

Shraddha Institute of Pharmacy, Kondala Zambre Washim, Maharashtra India- 444505

ARTICLE INFO

Published: 16 May, 2025

Keywords:

Tridax procumbens, Herbal soap, Skin disorders, Antimicrobial activity, Calendula officinalis

DOI:

10.5281/zenodo.15444520

ABSTRACT

Herbal medicines have long been integral to traditional healing systems due to their high medicinal value, availability, cost-effectiveness, and compatibility with human health. Among these, Tridax procumbens, commonly known as coat buttons, has gained considerable attention for its therapeutic potential in treating various skin disorders. This study focuses on the formulation and evaluation of a herbal soap incorporating Tridax procumbens extract, aiming to provide a natural, effective alternative to chemical-based commercial soaps. Herbal soaps offer numerous benefits, including antibacterial, antifungal, anti-inflammatory, antioxidant, and wound healing properties, while minimizing adverse skin reactions. In addition to Tridax procumbens, Calendula officinalis and Aloe vera were included for their proven skin-healing, moisturizing, and antimicrobial effects. Extraction of bioactive compounds was performed using suitable solvents, and the herbal soap was formulated using natural base oils and additives. The prepared soap was evaluated for key parameters including texture, pH, foamability, hardness, antimicrobial activity, and skin compatibility. The findings demonstrate the potential of Tridax procumbens-based herbal soap as an effective topical remedy for common skin issues such as wounds, acne, eczema, and fungal infections, offering a safe, natural, and eco-friendly skincare solution.

INTRODUCTION

Herbs are natural products substantially set up in treatment of nearly all conditions and problems owing to their high medicinal value, cost effectiveness, vacuity and comity. Sauces as from beauty of nature have been used to treat a wide range of skin problems, from the veritably

moderate to the really serious. The use of colorful herbal drugs for the treatment of skin infections has been delved by numerous traditional medical systems, including the Ayurveda, Siddha, and Unani systems of drug. Sauces are the most generally used natural particulars to cure virtually all affections and skin problems. Factory that has been used in traditional drug and has lately gained

***Corresponding Author:** Vaishnavi Surve

Address: Shraddha Institute of Pharmacy, Kondala Zambre Washim, Maharashtra India- 444505

Email ✉: vishalrasve@gmail.com

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



attention in the ornamental assiduity is *Tridax procumbens*. *Tridax*, also known as fleece buttons or Mexican daisy, is a flowering factory that belongs to the *Asteraceae* family. It's native to Mexico and Central America but can also be set up in other corridor of the world. Utmost of the marketable detergents contain chemical that can be dangerous to the skin and using a natural herbal cleaner can be a good volition. Herbal cleaner are made using natural sauces and constituents that are healthier and salutary for the skin and are less likely to beget any dangerous effect. Herbal cleaner medication is a drug that contains herbal excerpts should have considerable antibacterial, antimicrobial, anti-aging, anti-oxidant, and antiseptic action, promote skin exertion, have skin diseases are related to the dysfunction of skins factors or layers blights of mortal skin. Maturity of the global population is affected by skin diseases to some extent. Skin diseases like rashes is area of red, lit skin or a group of individual spots. Exemplifications of rashes include acne, dermatitis, eczema, hives, pityriasis rosea and psoriasis. Viral infections do when a contagion penetrates the stratum corneum and infects the inner layers of the skin. Some systemic viral infections, similar as funk spell and measles, may also affect the skin. Bacterial infections may spread throughout the body. Fungal infections are always present on face of the skin. Infection occurs when these organisms enter into the body. These infections are generally superficial, affecting the skin, hair, nails and include athlete's bottom, cinch itch and ringworm. Parasitic infections do after exposure to spongers similar as lice and scabies.

Common Skin Problems

Skin disease is a common ailment and it affects all ages from the neonate to the elderly and cause harm in number of ways. There are more than a thousand conditions that may affect the skin but

most skin diseases can be categorized common types.

- **Wound:**

Wound mending is a natural natural process that allows the body to repair damaged skins after an injury. It's a complex and dynamic process involving multiple cellular and molecular mechanisms to restore skin integrity and function. The mending process is essential for survival, as it prevents infection, stops bleeding, and facilitates towel rejuvenescence. Hemostasis begins incontinently after injury, where blood clotting helps stop bleeding by forming a fibrin clot. Next the seditious phase lasts for a many days, during which white blood cells clear debris and fight infection, causing greenishness and lump. This is followed by the proliferative phase, where fibroblasts produce collagen, new blood vessels form and the crack starts closing with granulation towel. Eventually, the development phase can last for months as collagen is refashioned, strengthening the repaired towel and reducing scarring. Several factors affect mending, including nutrition, infection, oxygen force, and underpinning health conditions.

- **Acne:**

Acne is a common skin condition that occurs when hair follicles come congested with oil painting and dead skin cells. It frequently appears as pustules, papules, blackheads, or excrescencies, and generally affects areas of the skin with a high number of oil painting glands, similar as the face, casket, and back. Acne is most common during nonage due to hormonal changes that increase oil painting product, but it can do at any age. Factors similar as stress, diet, certain specifics, and genetics can also contribute to the development of acne. While not generally a serious health trouble,



acne can beget emotional torture and lead to scarring if not duly treated.

- **Scabies:**

Scabies is a largely contagious skin infestation caused by the parasitic mite *Sarcoptes scabiei*. The mite burrows into the skin, causing violent itching, greenishness, and a rash. Scabies is spread through direct skin- to- skin contact with an infected person or by participating particular particulars, similar as apkins, coverlet, or apparel. Symptoms generally appear 4- 6 weeks after infestation and include violent itching, particularly at night, and the conformation of small, raised bumps or pocks on the skin. The itching can be severe and may lead to secondary infections, similar as impetigo or cellulitis. Scabies can affect anyone, anyhow of age, coitus, or socioeconomic status. Still, it's more common in crowded living conditions, similar as nursing homes, hospitals, and childcare installations.

- **Eczema:**

Eczema also known as atopic dermatitis is a habitual and enervating skin condition characterized by dry, itchy, and inflamed skin. It affects millions of people worldwide, anyhow of age, gender, or race. The condition is frequently touched off by a combination of inheritable, environmental, and vulnerable system factors, which can lead to a compromised skin hedge and increased perceptivity to annoyances and allergens.

- **Ringworm:**

Ringworm also known as tinea is a largely contagious fungal infection that affects the skin, hair, and nails, causing a range of symptoms including indirect, ring- shaped rashes or lesions,

itching, inflammation and scaled skin. This infection can be spread through direct contact with an infected person or beast as well as through participating particular particulars similar as skins, apparel or by walking barefoot in public areas similar as locker apartments, showers or swimming pools. There are several types of ringworm including tinea corporis which affects the body tinea capitis which affects the crown tinea pedis also known as athlete's bottom tinea cruris, also known as jock itch and tinea unguium, which affects the nails. Treatment for ringworm generally involves topical or oral antifungal specifics as well as rehearsing good hygiene and sanitation to help the spread of the infection. In addition to medical treatment there are several way that can be taken to help ringworm including washing the hands and body regularly.

- **Impetigo:**

Impetigo is a largely contagious bacterial skin infection that causes red, itchy, and blunt blisters, generally on the face, arms, or legs. It's most common in children especially those under the age of 6 but can also affect grown-ups. The infection is generally caused by *Staphylococcus aureus* or *Streptococcus pyogenic* bacteria which can enter the skin through minor cuts, scrapes, or nonentity mouthfuls. Impetigo can spread snappily through skin- to- skin contact, participating particular particulars, or touching polluted shells. Symptoms can range from mild to severe and may include greenishness, lump, itching, and crusting. However, skin infections, or order damage, If left undressed impetigo can lead to complications similar as scarring. Treatment generally involves topical or oral antibiotics, and rehearsing good hygiene, similar as keeping the skin clean.





Fig No.1 Skin Infections

Plant Drug Profile and Excipients Profile:

1. Tridax Procumbens

➤ **Botanical Description:**

Kingdom – Plantae

Sub-kingdom – Tracheobionta

Division – Magnoliophyta

Class – Magnoliopsida

Sub-class – Asteridae

Order – Asterales

Family – Asteraceae

Genus – Tridax

Species – Procumbens.



Fig No.2 Tridax Procumbens

➤ **Chemical constituent:** Alkaloids, Steroids, Flavonoids, Carotenoids, Fatty acids, Phytosterol, Tannin, and Minerals.

➤ **Pharmacological Activities:**

Antibacterial Activity:

The Tridax procumbens having antibacterial exertion which was tested against the Pseudomonas aeruginosa. The ethanol excerpt of tridax having inhibition zone against the leading gram-negative bacteria associated with nosocomial infections. The splint excerpt of Tridax procumbens used for the assaying of antibacterial exertion by using colorful detergents like hexane, chloroform, butanol, ethanol and

water. Antibiotic test carried out with *Escherichia coli*, *Pseudomonas aeruginosa*, *Micrococcus* sp, *Staphylococcus aureus*, *Proteus vulgaris*, *Klebsiella pneumoniae*, *Bacillus subtilis*, *Citrobacter* sp. And *Serratia marcescens* by slice prolixity system. Gram negative bacteria showed the further zone of inhibition.

Antifungal Activity:

Antifungal exertion of *Tridax procumbens* with whole factory excerpt used against the Phytopathogenic fungi, *Aspergillus niger* and the splint excerpt was tested against *Fusarium Oxysporum* and the results showed that good antifungal exertion.

Antimicrobial Activity:

Whole factory of *tridax* has reported for its antimicrobial exertion on colorful species of bacteria. A whole factory is squeezed between the triumphs of hands to gain juice. Fresh factory juice is applied twice a day for 3- 4 days to cure cuts and injuries. The excerpt of whole factory of *tridax* showed antibacterial exertion only against *Pseudomonas aeruginosa*. The fragment prolixity system was used to test the antibacterial exertion. Four strains of bacteria employed in test were two-gram positive *Bacillus subtilis*, *Staphylococcus aureus* and two-gram negative *Escherichia coli* and *Pseudomonas aeruginosa*.

Anti-inflammatory Activity:

Procumbens tridax has strong anti-inflammatory rates. The gain in weight indicates that the factory decoction's anti-inflammatory effect might be the result of a corticotropic influencel. It was discovered that the factory's active portion ethyl

acetate bit contained relatively polar natural chemicals similar as flavonoids and alkaloids. These bioactive substances have been used to combat reactive oxidant species which have been linked to the aetiology of inflammation and associated conditions.

Wound Healing Activity:

The factory decoction's capability to cure injuries is attributed to a complex interplay between tube-deduced proteins, extracellular matrix, controlled angiogenesis, and epidermal and dermal cells, all of which are regulated by growth factors and cytokines. Although not as important as whole factory decoctions, water splint decoctions were also successfully raising lysyl oxidase. This factory splint excerpt has been shown to accelerate crack mending in both immunocompromised and healthy rats. Because of the rise in glycosaminoglycan content, the factory can raise the situations of lysyl oxidase, protein, and nucleic acid in the granulation towel.

2. Calendula Officinalis

➤ Botanical Description:

Kingdom – Plantae

Subkingdom - Tracheobionta

Division- Magnoliophyta

Class – Magnoliopsida

Subclass- Asteridae

Order- Asterales

Family- Asteraceae

Genus- *Calendula*

Species- *Officinalis*.





Fig No.3 Calendula Officinalis

➤ **Chemical constituent:** Terpenoids, Quinones, Coumarins, Flavonoids, Essential oil, Carotenoids, Amino acids, Isorhamnetin, Rutin, Quercetin and Glucoside.

➤ **Pharmacological Activities:**

Antimicrobial Activity:

The antibacterial parcels of methanol and ethanol excerpts deduced from calendula petals against a variety of clinical pathogens, including *Aspergillus Niger*, *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, *Candida albicans*, and *Klebsiella pneumonia*. *Calendula officinalis* methanol excerpt outperformed the ethanol excerpt in terms of antibacterial exertion against the maturity of tested microorganisms. Excellent antifungal exertion was demonstrated by both methanol and ethanol excerpt against the test fungus strain.

Anti-inflammatory Activity:

Calendula Officinalis is substantially employed as an component by tinctures, ointments, and infusions that are used as crack mending remedies for skin inflammations, mucous membranes, towel form, pocks, scars, and antipathetic responses. The implicit benefits of calendula excerpt in the

operation of burn oedema. The essential oil painting from the blossoms inhibits *Bacillus subtilis*, *Escherichia coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Candida albicans* in vitro.

Wound and Burn Healing:

Calendula officinalis flower excerpt has wound and burn mending parcels when applied topically and over time. An increase in collagen hydroxyproline and hexosamine shows that the injuries in the treated person or beast are healing. The topical medications containing marigold excerpt also known as common marigold excerpt have been demonstrated to have a print-defensive impact on skin damage caused by ultraviolet irradiation.

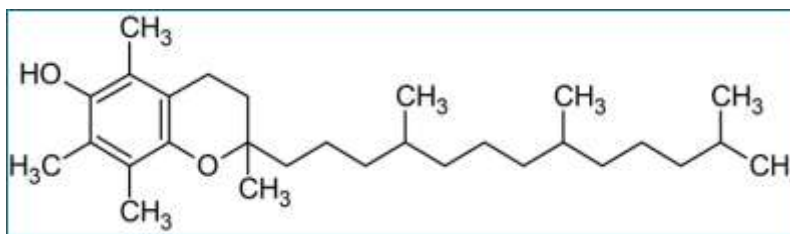
Excipient Profile

1. Vitamin E

Synonyms: Alpha-tocopherol, Tocopherol, RRR- α -Tocopherol (natural form), All-rac- α -Tocopherol (synthetic form).

Molecular Weight: $C_{29}H_{50}O_2 = 430.71$ g/mol

Empirical Formula:



Function: Antioxidant, Skin Conditioning Agent.

Role in Formulations: Vitamin E is widely used in topical formulations for its antioxidant properties, protecting both the product and the skin from oxidative damage. It enhances the stability of formulations by preventing the oxidation of other ingredients.

2. Glycerine Soap Base

Function: Base Material, Humectant, Emollient

Role in Formulations: Glycerine soap bases serve as the foundational matrix in soap formulations.

They are known for their moisturizing properties, attracting water to the skin and preventing dryness. The transparency and mildness of glycerine soap make it suitable for sensitive skin types.

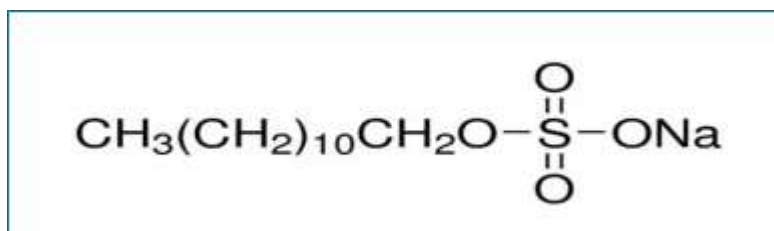
3. Sodium Lauryl Sulfate

Synonyms: Sodium dodecyl sulfate, Lauryl sulfate sodium salt, Monododecyl ester sodium salt of sulfuric acid.

Molecular Formula: C₁₂H₂₅ NaO₄S

Molecular Weight: 288.38 g/mol

Empirical Formula:



Function: Surfactant, Foaming Agent, Emulsifier

Role in Formulations: SLS is a widely used surfactant in personal care products, contributing to the foaming and cleansing properties of formulations. In pharmaceutical applications, it enhances the dissolution of poorly soluble drugs.

4. Rose Water

Synonyms: Rose essence, Rose hydrosol, Rose floral water, Rose distillate.

Function: Fragrance

Role in Formulations: Rose water is commonly incorporated into cosmetic and skincare products for its soothing fragrance and mild astringent properties. It can help tone the skin and provide a refreshing sensation.

5. Peppermint Oil

Synonym: Mentha piperita oil, Peppermint essential oil, Mentha arvensis oil.

Function: Fragrance, Cooling Agent, Antimicrobial

Role in Formulations: Peppermint oil is valued for its cooling effect and antimicrobial properties. It is used in various formulations, including topical applications and intranasal sprays, to provide a

refreshing sensation and potential therapeutic benefits.

MATERIAL AND METHOD:

Table No.1 Materials used in formulation

Sr. No	Ingredients	Roles
1	Tridax Procumben Extract	Wound healing property Antifungal, Antibacterial
2	Calendula Officinalis Extract	Antiseptic, Anti-inflammatory
3	Aloevera	Moisturizer
4	Ocimum sanctum	Antioxidant
5	Vitamin E	Preservative
6	Glycerine soap base	Cake formation
7	Sodium lauryl sulfate	Foaming agent
8	Rose water	Fragrance
9	Peppermint oil	Cooling and refreshing

Method for formulation of herbal soap:

Step 1: Preparation of Plant Extract

Tridax Procumbens – 50 gm of dried portion Was poured by 250 ml of methanol. Latterly it Was suspended for 7 days by stirring it from Time to time. On 8th day it was sorted out by Using Whatman no. 1 sludge paper and filtrate Was collected and faded to gain semi Solid excerpt.

Calendula Officinalis – 50 gm of dried flower corridor were immersed in 250 ml of methanol. The admixture was kept for 7 days at room

temperature with intermittent shaking. On the 8th day, the excerpt was filtered using Whatman No. 1 sludge paper. The collected filtrate was faded using a rotary evaporator to gain semi-solid crude excerpt.

Ocimum sanctum – 50 gm of dried leaves were soaked in 250 ml of methanol and allowed to impregnate for 7 days with occasional shifting. After maceration, the result was filtered through Whatman No. 1 sludge paper. The filtrate was concentrated under reduced pressure to yield semi-solid excerpt.



Fig No.4 Extract of plant materials

Step 2: Formulation of Soap

Take the soap base in a beaker. Adjust and maintain the temperature for providing heat to the soap base via using water bath. After heating a soap base will get converted into the liquid form. Then add extract and other material. Boil the

mixture using water bath. Achieve proper mixture without stirring. This mixture is poured into soap mold. Cooled it on room temperature up to 2-3 hrs. Soap is formed.

Formulation Table

Table No.2 Formulation table of herbal soap

Sr. No	Ingredients	F 1 (gm)	F 2 (gm)	F 3 (gm)
1	Tridax Procumbens Extract	5.0	4.5	4.5
2	Calendula Officinalis Extract	3.5	5.0	3.5
3	Aloevera	2.5	2	2
4	Ocimum Sanctum	1.5	1	2
5	Vitamin E	1	1	1.5
6	Glycerine soap base	15	20	22
7	Rose Water	2	1.5	2
8	Sodium lauryl Sulfate	3	2	1
9	Peppermint oil	1.5	2	1.5



Fig No. 5 Formulation Process of Soap

Evaluation Parameters:

- **Colour:** Observe visually; should be harmonious and reflect natural herbal constituents.
- **Texture:** Smooth and invariant texture with no cracks or grains.
- **Odour:** Characteristic herbal scent, no foul or rancid smell.
- **pH:** Measure using pH meter.
- **Hardness:** Perform by chiseling with a standard weight; check resistance and compare against known norms.
- **Foam Test:** Check the raging capacity for observing lather product. Dissolve a small quantum of herbal cleaner in water in a test tube or cylinder. Shake the result roundly for a set quantum of time (generally 1 – 2 twinkles). Allow it to stand and measure the height of the froth produced.

• **Wetting Time:** **Wetting** time refers to how snappily the cleaner begins to work when it comes into contact with water. It's an index of the cleaner's capability to access and clean efficiently. Dip a piece of standard cloth or paper into the cleaner result and Record the time it takes to come completely wet. A shorter wetting time means better performance.

• **Moisture Content:** The humidity content test measures the quantum of water present in herbal cleaner, which influences its hardness, shelf life, and lathering capability. Weigh a sample of the cleaner, Sot it in a hot air roaster at 105 °C until a constant weight is reached, and calculate the humidity chance using the weight difference.

• **Skin irritation Test:** This test checks whether the herbal cleaner causes any skin responses similar as greenishness, itching, or swelling. It helps insure the product is safe for druggies,

especially since herbal constituents can occasionally be allergens. Apply a small quantum of Cleaner or its excerpt to a patch of skin (generally on a mortal levy), observe the area after 24 to 72 hours, and record any signs of vexation.

• **Antimicrobial Activity:** This test is used to estimate the herbal cleaner's capability to inhibit the growth of microorganisms similar as bacteria and fungi. It helps determine the cleaner's effectiveness as an antimicrobial agent. Prepare agar plates invested with test organisms. Place small discs or wells containing the cleaner sample on the agar face. Incubate the plates at 37 °C for 24 hours.

RESULT AND DISCUSSION:

The herbal soap formulation evaluated for its physical, chemical, and biological properties.

Table No.3 Results of evaluation parameters

Sr. No	Parameters	F1	F2	F3
1	Colour	Green	Yellowish -green	Yellowish -green
2	Texture	Smooth	Smooth	Smooth
3	Odour	Herbal minty	Herbal minty	Herbal minty
4	pH	6.2	6.5	6.5
5	Hardness	4.5 kg/cm ²	3.5 kg/cm ²	4.5 kg/cm ²
6	Foam Test	4.5 cm	4.5 cm	4.5cm
7	Wetting time	25sec	20sec	22sec
8	Moisture content	12.3%	10%	11%



Fig No. 6 Foam Test



Fig No.7 pH Test

Skin Compatibility and Antimicrobial Activity

• Antimicrobial Assay

- **Skin Irritation Test-** No redness, swelling, or itching observed. Soap is non-irritating and safe for human use.

Table No.4 Antimicrobial Assay

Sr. No	Microorganisms	Zone of inhibition (mm)	Result
1	Staphylococcus aureus	15 mm	Strong antibacterial action
2	Escherichia coli	12 mm	Moderate activity

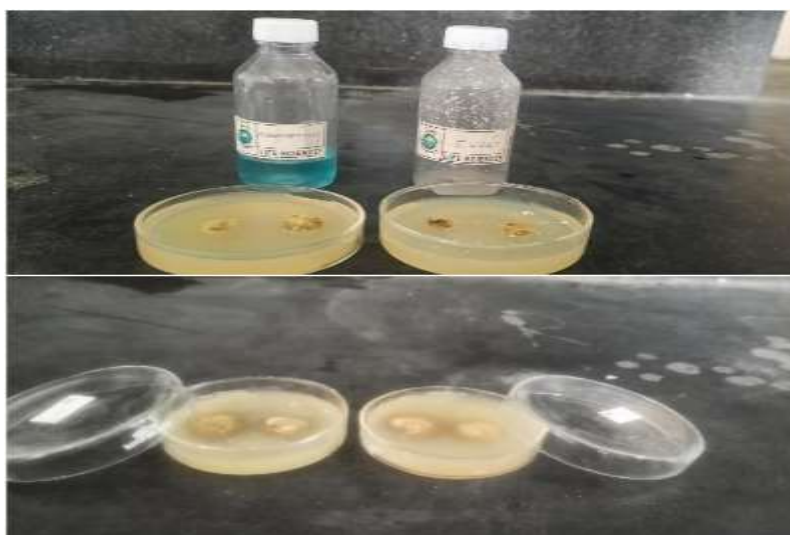


Fig No.8 Microbial Test

DISCUSSION:

antimicrobial action is attributed to Tridax Procumbens, Ocimum sanctum, and Calendula

extracts. The combined synergistic effect enhances microbial inhibition.

SUMMARY AND CONCLUSION:



In the study elaborated 40 gm herbal cleaner expression incorporates of natural constituents with proven remedial benefits for colorful skin conditions. *Tridax procumbens* and *Calendula officinalis* excerpts offer strong antibacterial, antifungal, and crack- mending parcels, making the expression effective in treating minor cuts, acne, and superficial infections. *Aloe vera* and *Ocimum sanctum* give moisturizing, antioxidant, and soothing goods, which aid in skin rejuvenescence and help palliate inflammation associated with acne and vexation. The addition of peppermint oil painting delivers a stimulating, cooling effect while also flaunting mild antimicrobial action. Evaluation of the cleaner verified its felicity for topical use, with optimal pH (6.8), respectable froth height (4.5 cm), fast wetting time (21 seconds), and non-irritant nature in skin tests. Antimicrobial testing demonstrated its capability to inhibit both bacterial (*Staphylococcus aureus*, *Escherichia coli*) and fungal (*Candida albicans*) pathogens, supporting its use as a preventative and remedial sanctification agent for skin infections. In conclusion, the herbal cleaner expression is n't only safe and effective for regular use but also holds implicit as a probative product in managing skin diseases similar as acne, injuries, and bacterial or fungal infections. It presents a natural, skin-friendly volition to chemical- laden detergents, aligning with current consumer preferences for herbal and sustainable skincare results.

REFERENCES

1. Sudharani MV, Kullayappa AC, Dheeraj C, Naik KB, Vandana M, Jamalbi P, et al. Formulation and evaluation of *Tridax procumbens* (L.) herbal soaps. *J Pharm.* 2023;3(1):1–8.
2. Das S, Agarwal S, Samanta S, Kumari M, Das R. Formulation and evaluation of herbal soap. *J Pharmacogn Phytochem.* 2024;13(4):14–19.
3. Smith J, Lee A. Common skin disorders and infectious causes: An overview. *Dermatol Clin Rev.* 2022;18(3):145–52.
4. Satish A, Bhalerao, Kelkar TS. Phytochemical and pharmacological potential of *Tridax procumbens* Linn. *Int J Adv Biotechnol Res.* 2012;2(3):392–5.
5. Christudas S, Kulathivel TM, Agastian P. Phytochemical and antibacterial studies of leaves of *Tridax procumbens*. *Asian Pac J Trop Biomed.* 2012; S159–61.
6. Dhasarathan P, Hemalatha N, Theriappan P, Ranjitsingh AJA. Antibacterial activities of extracts and their fractions of leaves of *Tridax procumbens* Linn. *Assoc Jap Bus Stud.* 2011;1(1):13–7.
7. Bobbarala V, Katikala PK, Naidu KC, Penumajji S. Antifungal activity of selected plant extracts against phytopathogenic fungi *Aspergillus niger*. *Indian J Sci Technol.* 2009;2(4):87–90.
8. Mahato RB, Chaudhary RP. Ethnomedicinal study and antibacterial activities of selected plants of Palpa District, Nepal. *Sci World.* 2005;3(3):26–31.
9. Prabhu V, Nalini G, Chidambaranathan N, Kisan S, Sudarshan. Evaluation of anti-inflammatory and analgesic activity of *Tridax procumbens* Linn. Against formalin, acetic acid and CFA induced pain models. *Int J Pharm Pharm Sci.* 2011; 3:126–30.
10. Nia R, Paper DH, Essien EE, Oladimeji OH, Iyadi KC, Franz G. Investigation into in-vitro radical scavenging and in-vivo anti-inflammatory potential of *Tridax procumbens*. *Niger J Physiol Sci.* 2003;18(1):39–43.
11. Bhat RS, Rappa JS, Shivakumar HG. Formulation and evaluation of polyherbal



- wound treatments. *Asian J Pharm Sci.* 2007;2(1):11–7.
12. Verma PK, Raina R, Agarwal S, Kour H. Phytochemical ingredients and pharmacological potential of *Calendula officinalis* Linn. *Pharm Biomed Res.* 2018;4(2):1–17.
 13. Dumenil G, Chemli R, Balansard C, Guiraud H, Lallemand M. Evaluation of antibacterial properties of Marigold flowers (*Calendula officinalis* L.) and mother homeopathic tinctures of *C. Officinalis* L. And *C. Arvensis* L. *Ann Pharm Fr.* 1980; 38:493–9.
 14. Smith J, Doe A. Phytotherapeutic applications of *Calendula officinalis*: a review of its anti-inflammatory and wound healing properties. *J Herb Med.* 2020;10(3):123–30.
 15. Chithra R, Sajithlal GB, Chandrakasan G. Influence of Aloe vera on collagen characteristics in healing dermal wounds in rats. *Mol Cell Biochem.* 1998; 181:71–6.
 16. Das S, Agarwal S, Samanta S, Kumari M, Das R. Formulation and evaluation of herbal soap. *J Pharmacogn Phytochemical.* 2024;13(4):14–19.
 17. Pardeshi YD, Patel VR, Kasar OB, Amrutkar GS. Formulation and evaluation of a herbal soap from *Tridax procumbens*. *Int J Pharm Sci.* 2024;2(1):214–27.
Doi:10.5281/zenodo.10512066.
 18. Vishal R. Rasve, Vivek V. Paithankar, Mrunal K. Shirsat, Avinash V. Dhobale, “Evaluation of Antiulcer Activity of *Aconitum Heterophyllum* on Experimental Animal” *World Journal of Pharmacy and Pharmaceutical sciences* 2018; volume 7 issue 2. Page no. 819-839.
 19. Sudharani MV, Kullayappa AC, Dheeraj C, Naik KB, Vandana M, Jamalbi P, et al. Formulation and evaluation of *Tridax procumbens* (L.) herbal soaps. *J Pharm.* 2023;3(1):1–8. Doi:10.31436/jop. v3i1.134.
 20. Purwal L, Shrivastav V, Makode KK, Jain U. Anthelmintic activity of aqueous extracts of some saponin-containing medicinal plants. *Der Pharm Lett.* 2010;2(4):476–81.
 21. Pardeshi YD, Patel VR, Kasar OB, Amrutkar GS. Formulation and evaluation of a herbal soap from *Tridax procumbens*. *Int J Pharm Sci.* 2024;2(1):214–27.
Doi:10.5281/zenodo.10512066.
 22. Sudharani MV, Kullayappa AC, Dheeraj C, Naik KB, Vandana M, Jamalbi P, et al. Formulation and evaluation of *Tridax procumbens* (L.) herbal soaps. *J Pharm.* 2023;3(1):1–8. Doi:10.31436/jop. v3i1.134

HOW TO CITE Vaishnavi Surve*, Aditi Tikait, Dr. Swati Deshmukh, *Tridax Procumbens Herbal Soap: A Natural Remedy for Skin Health*, *Int. J. of Pharm. Sci.*, 2025, Vol 3, Issue 5, 2783-2795. <https://doi.org/10.5281/zenodo.15444520>

