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Research Article

CLINICAL STUDY TO EVALUATE THE EFFICACY OF *BHEDANA* WITH *KATUKI* FOLLOWED BY *MUKHADOOSHIKAHARA LEPA* IN THE MANAGEMENT OF ACNE

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ABSTRACT

Mukhadooshika (Acne vulgaris) is a common chronic inflammatory disorder of the pilosebaceous units, affecting mainly young adults. Ayurveda classifies it as a *Kshudra Roga* arising from vitiated *Kapha, Vata* and *Rakta,* with *Kleda* accumulation and *Srotomukharodha* as central events. Modern treatments often cause recurrence and adverse effects, necessitating safer options. **Aims & Objectives**: To evaluate efficacy of *Bhedana* with *Katuki Choorna* followed by *Mukhadooshikahara Lepa* in managing acne. **Materials and Methods**: This interventional pre- and post-test study, without a control group, enrolled 31 subjects aged 18 to 40 years. On day 0, *Katuki Choorna* (2gm with warm water) was given as the *Bhedana Dravya*. From day 1 to 14, *Mukhadooshikahara Lepa (Lodhra, Vacha, Sarshapa, Saindhava),* mixed with water, was applied topically twice daily. Severity was assessed on Days 0, 8, 15 and 30 using the Global Acne Grading System (GAGS) and the Plewig-Kligman scale. **Results**: Repeated measures ANOVA showed significant reductions in GAGS scores, from 61.84±55.54 on Day 0 to 32.84±39.41 on day 30, and in Plewig-Kligman grades, from 1.677±0.702 to 1.226±0.497. Safety remained normal. **Conclusion**: The combined approach offers a safe, effective and cost-effective acne protocol through *Samprapti Vighatana*.

INTRODUCTION

Acne is one of the most prevalent dermatological conditions worldwide, affecting approximately 9.4% of the global population[1]. It predominantly occurs among adolescents and young adults aged 12-24 years, with 70-85% of individuals in this age group affected at some point. The condition is characterised by polymorphic eruptions involving comedones, papules, pustules and nodules, primarily on the face, chest and upper back. Beyond its physical manifestations, acne significantly impairs quality of life, diminishes self-esteem and contributes to psychological distress. The aetiology of acne is multifactorial, involving follicular hyperkeratinisation, increased sebum production, colonisation by *Cutibacterium acnes*, hormonal fluctuations, dietary factors, stress and environmental exposures. Treatment modalities like topical retinoids, antibiotics, systemic antibiotics, isoretinions, chemical peeling, platelet rich plasma, microdermabrasion has been provided for the acne by the dermatologists[2,3,4]. Despite numerous modern treatment modalities, challenges such as high recurrence rates, adverse effects and antibiotic resistance remain unresolved [5].

In Ayurveda, the condition most closely corresponding to acne is *Mukhadooshika* (also known as *Youvanapidaka*), described as a *Kshudra Roga* by the classics[6]. It manifests as *Pidaka* (eruptions) on the face of young individuals, resembling the thorns of the *Shalmali* tree, caused by the vitiation of *Kapha, Vata* and *Rakta*. The primary pathogenic events identified for this condition include *Kleda* accumulation, obstruction of *Swedavaha Srotas* (*Srotomukharodha*), increased *Twak Sneha* and secondary *Rakta Dushti*. Achieving *Samprapti Vighatana,* the disruption of pathogenesis, is central to effective Ayurvedic management.

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Based on this understanding, the present study was designed using two classical interventions. *Bhedana* with *Katuki Choorna* (*Picrorhiza kurroa*) was administered for 1 day as an internal *Shodhana* measure to eliminate accumulated *Badha* and *Abadha Mala* from the *Koshta*, normalise Dosha and correct *Raktadushti*. This was followed by topical application of *Mukhadooshikahara Lepa* a formulation comprising *Lodhra, Vacha, Sarshapa* and *Saindhava* as described in the *Sushruta Samhita*[7] for 14 days morning and evening, to achieve local *Kleda Shoshana*, reduction of *Twak Sneha* and removal of *Srotomukharodha*.

AIMS AND OBJECTIVES

To evaluate the effectiveness of *Bhedana* with *Katuki Choorna* followed by *Mukhadooshikahara Lepa* in the management of acne and to understand acne from an Ayurvedic perspective.

MATERIAL AND METHODS

Trial Design

An interventional pre- and post-test study without a control group was conducted at the OP Department of Kayachikitsa, Pankajakasthuri Ayurveda Medical College Hospital, Kattakada, Thiruvananthapuram. The study was registered with the Clinical Trial Registry– India (CTRI/2025/02/ 080068). Institutional Ethics Committee approval was obtained (PKAMC/IEC/90/2023) prior to commencement of the study.

Selection of Subjects

Subjects of either gender, aged 18–40 years, diagnosed with acne based on ICD-10 L70 criteria, were recruited through consecutive sampling from the outpatient department. Subjects with recurrent acne for at least one month who provided written informed consent were included. Those with drug-induced acne, concurrent skin conditions, active diabetic carbuncles, chickenpox, contraindications to *Virechana*, pregnancy or lactation were excluded. 38 subjects were enrolled and 7 subjects dropped out due to logistical constraints and statistical analysis was performed for the 31 who completed the study.

Intervention

***Bhedana*[8]*- Katuki Choorna*:** A single dose of 2gm *Katuki Choorna* (*Picrorhiza kurroa* Royle ex Benth)[9] was administered orally with 100ml warm water at bedtime on day 0. The dose was fixed after a pilot study identified that more than 2gm caused abdominal discomfort. This served as a *Bhedana Karma* to facilitate removal of *Badha* and *Abadha Mala* from *Koshta*, promote *Anulomana* of *Dosha* and correct *Raktadushti*.

***Lepana- Mukhadooshikahara Lepa*:** From day 1 to day 14, *Mukhadooshikahara Lepa Choorna*, consisting of equal quantities (25 g each) of *Lodhra* (*Symplocos racemosa* Roxb.)[10], *Vacha* (*Acorus calamus* Linn.)[11], *Sarshapa* (*Brassica juncea* Linn.)[12] and *Saindhava* (rock salt)[13,14] was mixed with water and applied topically over acne lesions in 3mm thickness (*Ardramahishatwak*), twice daily.

Both the trial drugs were prepared in a GMP-certified facility and Certificates of Analysis (COA) were obtained.

Duration and Follow-Up

The treatment period was 14 days (*Bhedana* on day 0; *Lepana* from day 1–14). Assessments were conducted on days 0, 8, 15 and 30. The day 30 assessment served as a post-intervention follow-up to determine sustainability of outcomes.

Assessment Parameters

The Global Acne Grading System (GAGS)

It assigns factor scores (1–3) to facial regions (forehead, cheeks, nose, chin) and the chest/upper back, multiplied by lesion grades (0=none to 4=nodules).

The score of each area is calculated using the formula:

Local score = Factor × Grade (0-4).

The global score is the sum of local scores and acne severity was graded using the global score.

Scores of 1–18 indicate mild; 19–30 moderate; 31–38 severe; and >39 very severe acne.

Table 1: Global Acne Grading System (GAGS)[15]

Location Factor	Factor Score	Type of Lesion	Grade
Forehead	2	No lesion	0
Right cheek	2	Comedones	1
Left cheek	2	Papules	2
Nose	1	Pustules	3
Chin	1	Nodules	4
Chest and upper back	3		

The Plewig-Kligman Acne Assessment Scale

It is a 4-grade seminal classification based on lesion type and count (comedonal and papulopustular), facilitating morphological evaluation and tracking of treatment response.

Table 2: Plewig-Kligman Acne Assessment Scale[16]

Grade	Comedonal	Papulopustular
1	Fewer than 10 comedones	Fewer than 10 inflammatory lesions
2	Between 10 and 25 comedones	Between 10 and 25 inflammatory lesions
3	Between 25 and 50 comedones	Between 20 and 30 inflammatory lesions
4	More than 50 comedones	More than 30 inflammatory lesions

Safety Assessment

Haematological and biochemical parameters (CBC, ESR, RBS, AEC, LFT, RFT) were assessed on days 0 and 15. A contact allergy test was performed on day 0 prior to commencing *Lepa* application.

Statistical Analysis

The Shapiro-Wilk test was used to assess normality of data. Repeated Measures Analysis of Variance (RM ANOVA) was applied for variables with normal distribution, followed by paired t-tests with Bonferroni correction for pairwise post-hoc comparisons. The Friedman test was employed for non-parametric data, with the Wilcoxon Signed-Rank test and Bonferroni adjustment used for post-hoc comparisons. A p-value of <0.05 was considered statistically significant.

OBSERVATIONS

Demographic Profile

A total of 31 subjects completed the study. The majority belonged to the 18-23 years age group (57.89%), reflecting the established age predilection for acne. Females comprised 73.68% of participants, consistent with the higher health-seeking behaviour and cosmetic concerns among women. Most subjects (76.32%) were unmarried and 86.85% reported moderate perceived stress, underscoring stress as a significant contributory factor. Stool type 4 and 5 (Bristol Stool Scale) predominated, validating the suitability of *Bhedana* in the study population.

Table 3: Distribution of subjects based on Age

Age group	Frequency	Percentage
18-23	22	57.89%
24-29	11	28.89%
30-35	3	7.89%
36-40	2	5.26%

Table 4: Distribution of subjects based on Gender

Gender	Frequency	Percentage
Female	28	73.68%
Male	10	26.32%

Table 5: Distribution of subjects based on Marital status

Marital status	Frequency	Percentage
Unmarried	29	76.32 %
Married	7	18.42 %
Divorced	2	5.26%

Table 6: Distribution of subjects based on Perceived Stress

Perceived Stress	Frequency	Percentage
Low	2	5.26%
Moderate	33	86.85%
High	3	7.89%

Table 7: Distribution of subjects based on Stool type

Stool type	Frequency	Percentage
Type 1	1	2.63%
Type 2	1	2.63%
Type 3	6	15.79%
Type 4	21	55.26%
Type 5	9	23.69%

Nature of Acne Lesions

The majority of subjects (84.21%) presented with symmetrical distribution of lesions, with regular borders. Red-coloured lesions predominated (34.21%), indicating active inflammatory involvement. Most lesions were <6 mm in diameter (55.26%), with raised elevation (52.63%). Primary lesions were predominantly a combination of macules and papules (47.24%) with macules, papules and pustules in 37.84%. Secondary lesions were present in only 11 subjects (29.73%), primarily as crusting.

Table 8: Distribution of subjects based on Symmetry of Lesions

Nature of Lesions	Frequency	Percentage
Symmetrical	32	84.21%
Asymmetrical	6	15.79%

Table 9: Distribution of subjects based on Colour of Lesions

Colour of Lesions	Frequency	Percentage
Red	13	34.21%
Pink	2	5.26%
Brown	1	2.63%
Black	3	7.89%
Black and brown	3	7.89%
Black and grey	1	2.63%
Brown and red	4	10.53%
Brown and tan	1	2.63%
Red and pink	7	18.43%
Red and brown	2	5.26%
Brown, black and red	1	2.63%

Table 10: Distribution of subjects based on Diameter of Lesions

Diameter of Lesions	Frequency	Percentage
<6mm	21	55.26%
6mm	4	10.54%
>6mm	2	5.26%
6mm and <6mm	9	18.43%
<6mm and >6mm	1	2.63%
6mm and >6mm	1	2.63%

Table 11: Distribution of subjects based on Elevation of Lesions

Elevation of Lesions	Frequency	Percentage
Raised	20	52.63%
Flat	11	28.95%
Flat and Raised	6	15.79%
Elevated	1	2.63%

Table 12: Distribution of subjects based on Primary Lesions

Primary Lesions	Frequency	Percentage
Macules and papules	16	47.24%
Macules, papules and pustules	14	36.84%
Macule and pustule	1	2.63%
Macules, papules, pustules and cyst	1	2.63%
Macules, papules, pustules and vesicle	1	2.63%
Macules	3	8.11%

Table 13: Distribution of subjects based on Secondary Lesions

Secondary Lesions	Frequency	Percentage
Crusting	8	4.18%
Excoriation	2	5.26%
Ulcer	1	2.63%

RESULTS

Bhedana Vega

50% of subjects achieved 2 *Vega*, 33.33% achieved 3 *Vega* and 16.67% achieved 1 *Vega* following the administration of *Katuki Choorna*, confirming effective *Bhedana Karma* in all subjects.

Table 14: Distribution of subjects based on *Bhedana Vega*

Bhedana Vega	Frequency	Percentage
1	3	16.67%
2	16	50%
3	12	33.33%

Effect on GAGS Score

A steady and statistically significant decline in mean GAGS scores was observed across all time points (Table 15). The Friedman test demonstrated an overall significant difference ($p < 0.01$). Wilcoxon Signed-Rank test with Bonferroni correction confirmed significant pairwise reductions between day 0 vs day 8 ($p < 0.01$), day 0 vs day 15 ($p<0.05$), day 0 vs day 30 ($p < 0.01$), day 8 vs day 30 ($p < 0.05$) and day 15 vs day 30 ($p < 0.05$).

The comparison between Day 8 and Day 15 was non-significant after Bonferroni adjustment, reflecting a phase of physiological stabilisation before continued improvement. One subject achieved a GAGS score of 0 by Day 30, indicating complete resolution.

Table 15: Statistical Analysis of GAGS Score (Friedman Test)

Variable	Day	Mean ± SD	Friedman Test
GAGS	Day 0	61.84 ± 55.54	<0.01
	Day 8	47.48 ± 48.28	
	Day 15	40.77 ± 40.60	
	Day 30	32.84 ± 39.41	

Table 16: Pairwise Comparison of GAGS Score (Wilcoxon Signed-Rank Test)

Variable	Day	P Value (Wilcoxon Signed-Rank Test)
GAGS	Day 0 vs Day 8	<0.01
	Day 0 vs Day 15	<0.05
	Day 0 vs Day 30	<0.01
	Day 8 vs Day 15	>0.05
	Day 8 vs Day 30	<0.05
	Day 15 vs Day 30	<0.05

Effect on Plewig-Kligman Acne Assessment Scale

A progressive decline in mean Plewig-Kligman grades was recorded from 1.68±0.70 on day 0 to 1.23±0.50 on day 30 (Table 17). The Friedman test demonstrated overall significance ($p<0.01$). Significant pairwise improvements were noted from day 0 to day 15 ($p<0.05$) and day 0 to day 30 ($p<0.01$) (Table 18). Comparisons

between intermediate time points were not statistically significant, indicating a gradual therapeutic effect that becomes more pronounced with sustained treatment.

Table 17: Statistical Analysis of Plewig-Kligman Acne Assessment Scale (Friedman Test)

Variable	Day	Mean ± SD	Friedman Test
Plewig-Kligman Assessment Scale	Day 0	1.677 ± 0.702	<0.01
	Day 8	1.419 ± 0.620	
	Day 15	1.323 ± 0.541	
	Day 30	1.226 ± 0.497	

Table 18: Pairwise Comparison of Plewig-Kligman Acne Assessment Scale (Wilcoxon Signed-Rank Test)

Variable	Day	P Value (Wilcoxon Signed-Rank Test)
Plewig-Kligman Assessment Scale	Day 0 vs Day 8	>0.05
	Day 0 vs Day 15	<0.05
	Day 0 vs Day 30	<0.01
	Day 8 vs Day 15	>0.05
	Day 8 vs Day 30	>0.05
	Day 15 vs Day 30	>0.05

The clinical response to the intervention was assessed using the Global Acne Grading System (GAGS) and the Plewig -Kligman Acne Assessment Scale on days 0, 8, 15 and 30. Separate symptom-wise baseline assessment and subjective symptom scoring were not performed in this study. Therefore, the evaluation of treatment response was based on the objective assessment scales recorded at the specified assessment points.

Safety Parameters

Hematological and biochemical parameters including LFT, RFT, CBC, RBS and AEC were within normal physiological limits at both Day 0 and Day 15 assessments, with no statistically significant changes ($p>0.05$) for the majority of parameters. A statistically significant decrease in monocyte count ($p<0.05$) was observed, suggesting a targeted anti-inflammatory effect of the intervention. No contact allergy reactions, adverse drug reactions or toxicity signs were reported, confirming the safety of both formulations.

DISCUSSION

Understanding of *Mukhadooshika* and its Correlation with Acne

The etiopathogenesis of acne closely parallels the classical description of *Mukhadooshika*. Dietary factors such as high-glycaemic-index foods and dairy products increase *Kapha Dosha* and *Kleda*, analogous to increased sebum production mediated through insulin and IGF-1 pathways. Psychological stress, correlating with *Rasavaha Sroto Dushti*, drives further vitiation of *Kapha*. Follicular hyperkeratinisation is comparable to *Srotomukharodha* caused by accumulated *Kleda* and *Kapha*. The inflammatory component of acne, driven by *C. acnes* and pro-inflammatory cytokines, corresponds to *Rakta Dushti* producing *Daha* (burning), *Raga* (redness) and *Paaka* (suppuration) of the *Mukha*.

Probable Mode of Action of *Katuki Choorna* (*Bhedana*)

Katuki Choorna possesses *Tikta* and *Katu Rasa*, *Laghu* and *Rooksha Guna*, *Sheeta Veerya* and *Katu Vipaka*, with established *Bhedana, Lekhaniya* and *Kapha-Pitta Shamaka* properties. Its *Bhedana* action facilitates the clearance of accumulated *Mala* from the *Koshta*, promotes *Vata Anulomana* and removes *Srotorodha*. The warm water *Anupana* enhances *Vata-Kaphahara* action and aids *Deepana*.

From a modern scientific perspective, the iridoid glycosides Picroside I, Picroside II and Kutkin exert potent anti-inflammatory and immunomodulatory effects by reducing the inflammatory cascade within pilosebaceous follicles. Androsin exerts hepatoprotective action, enhancing the elimination of excess androgens and thereby preventing androgen-mediated sebum hypersecretion. Phenolic compounds and polyphenols reduce oxidative stress in sebaceous glands and protect against lipopolysaccharide-induced sebum oxidation. Flavonoids demonstrate antimicrobial and anti-lipogenic activity, inhibiting the growth of *C. acnes* and reducing follicular inflammation. The cumulative phytochemical action of *Katuki* targets the three key drivers of acne: hyperkeratinisation, sebaceous gland hypertrophy and microbial proliferation. [17,18]

Probable Mode of Action of *Mukhadooshikahara Lepa (Lepana)*

The formulation possesses *Tikta* and *Katu Rasa*, *Laghu, Rooksha* and *Teekshna Guna*, *Anushna-Sheeta Veerya* and *Katu Vipaka*, acting as a *Vilayana Lepa* suited to *Kapha-Meda* dominant conditions. The

Laghu-Rooksha Guna reduces excess *Twak Sneha*; the *Teekshna* and *Sookshma Guna* facilitate penetration through *Lomakoopa* into pilosebaceous units, achieving *Srotomukhashodhana*. The *Anushna-Sheeta Veerya* prevents further vitiation of *Vata, Kapha* and *Rakta*, thereby checking *Pachana* of acne and preventing suppuration.

Individual ingredients contribute synergistic mechanisms. *Lodhra* contains tannins (gallic acid, ellagic acid) and alkaloids with anti-inflammatory, antimicrobial and haemostatic properties; it facilitates epithelialisation by protein precipitation over acne wounds. Beta-asarone and methanol extracts of *Vacha* exhibit anti-acne activity against *C.acnes* pathogens and antimicrobial and sebum-modulating flavonoids and phenolic compounds. *Sarshapa* with glucosinolates generate isothiocyanates that inhibit C. acnes biofilm formation; sinigrin suppresses NF-kB and MAPK pathways, reducing pro-inflammatory mediators COX-2, PGE2, TNF-alpha and IL-1 beta. *Saindhava* creates a hyper-osmolar microenvironment, reducing lesion swelling and inhibiting bacterial proliferation by dehydration; trace minerals (Zinc, Magnesium, Iodine) contribute additional anti-inflammatory and anti-microbial effects. Water as the vehicle provides hydration-induced permeability that optimises transdermal bioavailability and restores skin barrier function[19,20,21].

Discussion on Methodology

The 14-day *Lepa* application period was selected considering the standard 28-day stratum corneum transit time, to observe therapeutic effects without confounding from natural cellular replacement. The single-dose *Bhedana* on day 0 served as a *Purvakarma* to correct systemic *Dosha* before initiating local treatment. The use of both GAGS and Plewig-Kligman scales provided complementary quantitative assessments: GAGS capturing regional distribution and lesion severity, and Plewig-Kligman capturing lesion morphology and count. The 30-day follow-up confirmed sustained therapeutic outcomes beyond the active treatment period. The predominance of Type 4 and 5 stool types (Bristol Stool Scale) in the study population validated the selection of *Bhedana* as an appropriate intervention for this cohort.

Discussion on Results

The statistically significant reduction in GAGS scores from day 0 to day 8 demonstrates an early anti-inflammatory effect, likely attributable to the *Bhedana* mediated *Dosha* normalisation and the early action of the *Lepa* ingredients on reducing *Srotomukharodha*. The stabilisation phase between days 8 and 15 reflects the physiological time required for sebaceous gland regulation and follicular repair. Continued significant reduction through day 30 even beyond the treatment period indicates a sustained, cumulative therapeutic effect consistent with the principles of *Samprapti Vighatana*. The Plewig-Kligman scale further corroborated these findings, with significant morphological improvement seen by day 15 and day 30.

CONCLUSION

The study demonstrates that the combined approach of *Bhedana* with *Katuki Choorna* followed by topical *Mukhadooshikahara Lepa* provides a safe, effective and cost-effective management protocol for acne. The intervention achieved statistically significant and clinically meaningful reductions in acne severity as measured by both GAGS and Plewig-Kligman scales, with sustained benefits observed at follow-up. Safety parameters confirmed no systemic toxicity. The therapeutic efficacy can be attributed to the synergistic mechanisms of *Samprapti Vighatana* comprising *Shodhana* of *Koshta* via *Bhedana* and local *Kleda Shoshana*, *Srotomukhashodhana* and *Raktadushti* correction via *Lepana*. These findings support *Mukhadooshikahara Lepa* as a promising alternative to conventional acne management. Future studies with larger sample sizes, control groups, photographic documentation and longer follow-up are recommended to further validate and expand upon these findings.

Limitations

Separate symptom-wise baseline assessment and subjective symptom evaluation were not undertaken, which limited the assessment of individual symptom-specific changes following the intervention. Future studies should incorporate systematic baseline documentation of individual symptoms and validated subjective assessment tools alongside objective acne severity scales.

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REFERENCES

1. Tan JK, Bhate K. A global perspective on the epidemiology of acne. Br J Dermatol. 2015; 172(Suppl 1):3–12.
2. Li Y, Hu X, Dong G, Wang X, Liu T. Acne treatment: research progress and new perspectives. Front Med. 2024; 11: 1425675.

3. Rachel V. Reynolds, Howa Yeung, Carol E. Cheng, Fran Cook-Bolden, Seemal R. Desai, Kelly M. Druby, Esther E. Freeman, Jonette E. Keri, Linda F. Stein Gold, Jerry K.L. Tan, Megha M. Tollefson, Jonathan S. Weiss, Peggy A. Wu, Andrea L. Zaenglein, Jung Min Han, John S. Barbieri, Guidelines of Care For The Management of Acne Vulgaris, Journal of the American Academy of Dermatology, Volume 90, issue 5, 2024, pages 1006.e11006.e30, https://doi.org/10.1016/j.jaad.2023.12.017.(https://www.sciencedirect.com/science/article/pii/s0190962223033893).
4. Khunger N. Standard guidelines of care for acne surgery. Indian J Dermatol Venereol Leprol 2008; 74: 28-3.
5. Gupta A, Kaur M, Patra S, Khunger N, Gupta S. Evidence-Based Surgical Management of Post-Acne Scarring in Skin of Color. J Cutan Aesthet Surg. 2020 Apr-Jun; 13(2): 124-141. Doi: 10.4103/ jcas. jcas_154_19.
6. Acharya Sushruta. Sushruta Samhita, Kshudraroga Nidana 13/39. Edited by Yadavji Trikamji Acharya. Varanasi: Chaukhamba Surbharati Prakashan; reprint 2003. p. 87.
7. Acharya Sushruta. Sushruta Samhita, Kshudraroga Chikitsa 20/36-37. Varanasi: Chaukhamba Surbharati Prakashan; reprint 2003. p. 321.
8. Sarngdhara. Sarngdhara Samhita, Uttarakhanda 11/10-15. Edited by Murthy S. Varanasi: Choukhamba Orientalia; 3rd ed. 1997. p. 236-237.
9. The Ayurvedic Pharmacopoeia of India. Volume-2. Part-1. New Delhi: Govt. of India, Ministry of AYUSH; 2003. p.85-87
10. The Ayurvedic Pharmacopoeia of India. Volume-2. Part-1. New Delhi: Govt. of India, Ministry of AYUSH; 2003. p.81-82
11. The Ayurvedic Pharmacopoeia of India. Volume-2. Part-1. New Delhi: Govt. of India, Ministry of AYUSH; 2003. p.177-179
12. The Ayurvedic Pharmacopoeia of India. Volume-2. Part-1. New Delhi: Govt. of India, Ministry of AYUSH; 2003. p.193-194
13. The Ayurvedic Formulatory of India. Volume-2. Part-2. New Delhi: Govt. of India, Ministry of AYUSH; 2000.p.323
14. Chander V, Tewari D, Negi V, Singh R, Upadhyaya K, Aleya L. Structural Characterization of Himalayan Black rock salt by SEM, XRD and In-Vitro Antioxidant Activity. Sci Total Environ. 2020 Dec 15; 748: 141269. Doi: 10.1016 j.scitotenv.2020. 141269. Epub 2020 Jul 27. PMID: 3279886.
15. Thappa D, Adityan B, Kumari R. Scoring systems in acne vulgaris. Indian J Dermatol Venereol Leprol. 2009; 75(3): 323.
16. Plewig G, Kligman AM. Plewig and Kligman's Acne and Rosacea. Cham: Springer International Publishing; 2019. p. 210
17. Krupashree K, Hemanth Kumar K, Rachitha P, et al. Chemical composition, antioxidant and macromolecule damage protective effects of Picrorhiza kurroa Royle ex Benth. South African J Bot. 2014; 94: 249-254.
18. Almeleebia TM, Abdulrhman Alsayari, Wahab S. Pharmacological and clinical efficacy of picrorhiza kurroa and its secondary metabolites: a comprehensive review. Molecules. 2022 nov 29; 27(23): 8316–6
19. Ingle DS, Dongre S. Therapeutic potential of Lodhra in classical and contemporary ayurveda: A Critical review with special reference to Bhaishajya Kalpana. Int J Creative Res Thoughts. 2026; 14.
20. Kongkham B, Duraivadivel P, Hariprasad P. Acorus calamus l. Rhizome extract and its bioactive fraction exhibits anti-bacterial effect by modulating membrane permeability and fatty acid composition. J Ethnopharmacol. 2024 Sep 15; 331: 118323. Doi: 10.1016/j.jep.2024.118323. Epub 2024 may 9. Pmid: 38729535.
21. Lee HW, Lee CG, Rhee DK, Um SH, Pyo S. Sinigrin inhibits production of inflammatory mediators by suppressing NF-κB/MAPK pathways or NLRP3 inflammasome activation in macrophages. Int Immunopharmacol. 2017; 45: 163-173.

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