



Research Article

ASSESSMENT OF THERAPEUTIC EFFICACY OF SARJAADI PADA PRAMARJANA YOGA IN PADADARI (FOOT XEROSIS): A DOUBLE-BLIND, RANDOMISED, WITHIN-INDIVIDUAL, COMPARATIVE CLINICAL STUDY

Anarghya Acharya¹, Smitha Jain^{2*}

¹UG Scholar, ²Associate Professor, Rasashastra and Bhaishajya Kalpana, Sri Dharmasthala Manjunatheshwara Institute of Ayurveda and Hospital, Bengaluru Karnataka, India.

Article info

Article History:

Received: 02-01-2026

Accepted: 09-02-2026

Published: 15-03-2026

KEYWORDS:

Ayurveda, Foot Xerosis, Padadari, Plantar Xerosis, Sarjaadi Pada Pramajana Yoga, Topical.

ABSTRACT


Foot xerosis is a common yet underrecognized condition characterised by dryness, scaling and fissuring of the plantar skin. It is known as *Padadari* in Ayurveda. While often dismissed as a minor nuisance, persistent dryness, roughness, scaling and fissuring can cause discomfort, pain and functional limitation. **Aim:** To evaluate the efficacy of *Sarjaadi Pada Pramajana Yoga* (SPPY) in reducing the clinical severity of *Padadari* compared to a marketed ayurvedic product. **Methodology:** The study was a prospective, double-blind, within-individual, randomised comparative clinical trial. Thirty participants clinically diagnosed with *Padadari* were enrolled. In each participant, one foot was randomised to receive SPPY, while the contralateral foot received the comparator (marketed Ayurvedic *Padadari* balm). Both interventions were applied topically twice daily for 21 days. Clinical evaluations at baseline and weekly intervals were carried out with validated scoring systems. **Results:** Both SPPY and the marketed comparator demonstrated statistically significant clinical improvement across key outcome measures. However, SPPY showed a comparatively greater magnitude of improvement in reducing dryness and enhancing skin texture. **Conclusion:** *Sarjaadi Pada Pramajana Yoga* is an effective and safe topical intervention for the management of *Padadari* (foot xerosis).

INTRODUCTION

Foot xerosis is a prevalent dermatological condition often overlooked in clinical practice, despite causing notable physical discomfort, functional impairment, cosmetic stigma, and psychosocial distress. Pathophysiologically, it is characterised by a significant reduction in the moisture content of the stratum corneum and the intercellular lipid matrix, resulting in dryness, scaling, and fissuring of the plantar surface. Beyond a cosmetic concern, this condition causes severe discomfort during daily activities, thereby hindering mobility and degrading quality of life. Progression of this condition results in deep, painful fissures that compromise the cutaneous

barrier and facilitate secondary microbial infections, complicating clinical management [1]. Epidemiological data highlight a substantial disease burden in India, with prevalence among the elderly ranging from 40% to 50%. Specifically, a study in North India reported a 48% incidence of foot xerosis among older adults presenting to dermatological clinics, emphasising the need for effective, validated therapeutic interventions [2]. In South India, particularly in rural Tamil Nadu, a community-based study reported that 48% of individuals aged 15 and above experienced heel fissures, with higher rates in women (58.4%) than in men (33.3%) [3].

In Ayurveda, foot xerosis is referred to as *Padadari* and classified as a *Kshudra Roga* (minor disorder). Its pathogenesis is attributed to the vitiation of *Vata* and *Kapha doshas*[4], leading to clinical manifestations such as *Rukshata* (dryness), *Khara sparsha* (roughness), *Darana* (fissuring), and occasionally bleeding and pain. Classical Ayurvedic management suggests *Snehana* (oleation), *Swedana*

Access this article online	
Quick Response Code	
	https://doi.org/10.47070/ayushdharma.v13i1.2550
	Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

(sudation), and topical application of *Lepa* (medicated paste) or *Malahara* (medicated ointments) with emollient and wound-healing properties.

Xerosis exerts a negative impact on patient quality of life, correlating with reduced scores on the Dermatology Life Quality Index (DLQI) due to persistent dryness, roughness, scaling and cracks. Standard dermatological management relies on the consistent use of topical moisturisers and emollients to restore epidermal barrier function. Similarly, classical Ayurvedic texts for the management of *Padadari* advocate for a synergistic, compound formulation approach, combining exfoliants, emollients, humectants and bioactive phytoconstituents to address the condition. However, despite the rich pharmacopoeia available in classical Ayurvedic texts, the therapeutic potential of Ayurvedic topical formulations remains underexplored in evidence-based clinical frameworks. *Sarjaadi Pada Pramajana Yoga* (SPPY) is one such formulation described in authoritative Ayurvedic texts, *Chakradatta*^[5] and *Bhaishajya Ratnavali*^[6]. While its constituent ingredients suggest potent therapeutic potential for skin barrier repair, a systematic literature review confirms a lack of published clinical trials evaluating its efficacy. Therefore, there exists a significant research gap in validating its therapeutic benefits through clinical methodologies. Hence, this study seeks to address this research gap by conducting a controlled clinical evaluation of SPPY. By comparing its therapeutic outcomes against a standard marketed Ayurvedic *Padadari Malahara*, this research aims to provide a comparative analysis of its efficacy and potential as a validated treatment for foot xerosis.

METHODOLOGY

Ethical Statement and Trial Registration

Ethical approval was granted by the Institutional Ethics Committee via certificate no. SDMIAH/IEC/61/2025 on 6/11/2025, the study adhered to the Good Clinical Practice (GCP) guidelines. Informed written consent was obtained from all participants after a comprehensive briefing via a Patient Information Sheet. Confidentiality of the CRFs and all other data was maintained, and the original raw data is preserved in a legible condition.

Study Design

This study is designed as a double-blind, randomised, within-individual clinical trial to evaluate the efficacy of *Sarjaadi Pada Pramajana Yoga* (SPPY) compared to a standard marketed drug, Marketed Ayurvedic *Padadari* Balm (MAPB), in managing foot xerosis. After initial screening, subjects presenting with symmetrical xerosis on both feet were enrolled and subjected to within-individual randomisation. A

within-individual design was selected to minimise inter-subject biological variability, influence of confounders like *Prakriti* (physical constitution) and nutritional status. One foot was randomised to receive the trial drug *Sarjaadi Pada Pramajana Yoga* (SPPY), while the contralateral foot received the standard marketed ayurvedic comparator Marketed Ayurvedic *Padadari* Balm (MAPB).

Participant Selection

A total of 30 subjects were recruited from the outpatient and inpatient departments of Sri Dharmasthala Manjunatheshwara Institute of Ayurveda and Hospital. Adults aged 18–55 years presenting with symmetrical bilateral foot xerosis (*Padadari*) with or without fissures were included. Subjects were required to have a baseline score of ≥ 2 on the Xerosis Assessment Scale (XAS)^[7], Overall Dry Skin Score (ODS), and a total score ≥ 6 on the Specified Symptom Sum Score (SRRC)^[8], with no more than one grade difference between feet. Subjects with uncontrolled diabetes, peripheral vascular disease, or those who were pregnant/lactating were excluded. Subjects with open ulcers, active infections, or comorbid dermatological conditions (e.g., psoriasis, eczema) were also excluded. A two-week washout period for topical corticosteroids, keratolytics, and antifungals was mandatory.

Randomisation and Blinding

Participants were assigned to treatment arms using a computer-generated randomisation list. Allocation concealment was maintained through the use of sequentially numbered, identical containers. Both the principal investigator and the participants remained blinded to the treatment assignments until the conclusion of the final data analysis.

Interventions

The trial drug *Sarjaadi Pada Pramajana Yoga* (SPPY) included the ingredients *Sarjarasa* (resin from *Vateria indica* Linn.), *Saindhava Lavana* (rock salt), *Madhu* (honey), *Ghrita* (clarified butter), and *Katu Taila* (mustard oil). Ingredients in equal ratios were triturated and blended using a mortar and pestle according to the trituration method to ensure consistency. Prepared *Malahara* was packed in a container weighing 15g each. The container was identical to the comparator standard drug, Marketed Ayurvedic *Padadari* Balm (MAPB), which was procured from the hospital dispensary. Both the trial drug and the comparator (MAPB) were dispensed in identical 15g containers labelled "Left Foot" or "Right Foot" according to the randomisation schedule. Prior to the trial, a sensitivity test for both the trial and control drugs was done by applying a small patch of size 2cm×2cm on the ventral aspect of the left forearm

to rule out hypersensitivity. Subjects were directed to apply the *Padadari* twice daily- once in the morning and once at night; with a quantity sufficient to cover the area affected. This is followed by cleansing of the feet with lukewarm water.

Outcome Measures

The primary efficacy endpoint was the change in clinical severity of xerosis from baseline to Day 21, measured via Xerosis Assessment Scale (XAS), Overall Dry Skin Score (ODS) and Specified Symptom Sum Score (SRRC) (comprising scaling, roughness, redness, and cracks). Secondary endpoints included safety, local tolerability, and patient satisfaction. Assessments were conducted at four intervals: Visit 1 (Day 0), Visit 2 (Day 7), Visit 3 (Day 14), and Visit 4 (Day 21). All clinical evaluations were performed by a single blinded investigator to eliminate bias.

Xerosis Assessment Scale (XAS)

The Xerosis Assessment Scale (XAS) is a clinician-reported outcome that evaluates the severity of skin dryness based on visual and tactile signs, especially: Scaling, Roughness, Cracks (fissures), Dullness/whiteness.

Scoring Criteria

- 0 No xerosis: Normal, healthy skin. No visible or palpable dryness.
- 1 Very mild xerosis: Barely visible dryness. Slight roughness or scaling.
- 2 Mild xerosis: Noticeable scaling or roughness. No fissures or redness.
- 3 Moderate xerosis: More evident scaling with possible superficial fissures or dull white appearance.
- 4 Severe xerosis: Pronounced roughness, deep cracks/fissures, scaling with potential redness or thickening.

Overall Dry Skin Score (ODS)

The Overall Dry Skin Score (ODS) provides a global clinical impression of xerosis severity, considering all visible signs, such as: Skin surface texture, scaling, fissures, redness, lichenification or inflammation

Scoring Criteria

- 0 No dryness: Smooth, hydrated skin. No scaling, fissures, or discolouration.
- 1 Slight dryness: Dull appearance or faint scaling. Minor roughness.
- 2 Mild dryness: Small but consistent scales, mild roughness, or whitish appearance.
- 3 Moderate dryness: Larger scales, definite roughness, beginning of superficial cracks or mild redness.

- 4 Severe dryness: Thick scaling, deep fissures, pronounced roughness, redness, or eczematous changes.

SRRC: Specified Symptom Sum Score

The SRRC scoring system assesses four key clinical signs of xerosis: Scaling, Roughness, Redness (Erythema), and Cracks (Fissures). Each of the four symptoms is graded separately on a 0–4 Likert scale, based on severity. The total score is the sum of all four domains, resulting in a possible range of 0 to 16.

Scaling (S)

Score Description

- 0 No visible scaling.
- 1 Barely visible scaling; faint and limited.
- 2 Clearly visible scaling; small scales over limited areas.
- 3 Large, loose, or widespread scales.
- 4 Thick, sheet-like, or severe scaling over large areas.

Roughness (R)

Score Description

- 0 Skin feels smooth to the touch.
- 1 Slight roughness detectable by touch only.
- 2 Obvious roughness; easily felt when touched.
- 3 Pronounced roughness with a visibly uneven surface.
- 4 Very coarse texture; severe tactile and visual roughness.

Redness (R) (Erythema)

Score Description

- 0 No redness or discolouration.
- 1 Faint or patchy pinkness.
- 2 Mild but consistent erythema in localised areas.
- 3 Moderate redness over larger areas or more intense in smaller zones.
- 4 Severe, widespread erythema; possibly inflamed or eczematous areas.

Cracks (C) (Fissures)

Score Description

- 0 No visible cracks or fissures.
- 1 Superficial, hairline cracks; painless.
- 2 Small shallow fissures; may be slightly tender.
- 3 Deeper cracks; clearly visible and possibly painful.
- 4 Large, deep, bleeding or infected cracks; significant discomfort.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics version 23. Continuous variables are expressed as Mean±Standard Deviation (SD). Within-subject

comparisons in the trial and control groups were performed using paired t-tests. Longitudinal changes across the four time points between the groups were analysed using Repeated Measures Analysis of Variance. Individual SRRC domains were also analysed to identify specific symptomatic improvements. Statistical significance was defined as $p < 0.05$.

OBSERVATION AND RESULTS

A total of 30 subjects who met the eligibility criteria were enrolled in the study. Twenty-six participants (86.7%) completed the full 21-day protocol. Four participants who lost to follow-up were considered dropouts. The study population predominantly consisted of females ($n=23$, 88.5%). Although the inclusion criteria permitted a broad range of 18–55 years, the participant population was mostly middle-aged, with a mean age of 40.65 ± 10.13 years. At baseline, no instances of bleeding or active secondary infections were recorded.

Occupational data revealed that the majority of participants were engaged in high-impact manual labour or domestic activities, specifically housekeeping

and homemaking. One participant was a professional gardener, and the remaining held miscellaneous occupations. Regarding footwear habits, 46.15% of the cohort reported frequent barefoot walking.

Effect of SPPY and MAPB on Padadari

The mean total XAS score for the trial foot (SPPY) decreased from 2.69 ± 0.55 at baseline to 2.35 ± 0.74 post-treatment. Similarly, the control foot (MAPB) showed a reduction in mean XAS scores from 2.73 ± 0.53 to 2.42 ± 0.76 . Regarding the ODS, a significant reduction was observed in the SPPY group, declining from 2.73 ± 0.72 to 1.92 ± 0.69 . While the MAPB group demonstrated the same baseline ODS mean score value, the post-treatment reduction was less pronounced, with a final score of 2.08 ± 0.89 . The mean total SRRC score improved from a baseline of 8.00 ± 1.83 to 6.38 ± 1.72 post-intervention in the SPPY foot and went from 8.04 ± 1.89 to 6.62 ± 2.06 in the MAPB foot. A comprehensive summary of pre- and post-test scores for XAS, ODS, and SRRC for both the trial and control groups is presented in Table 1.

Table 1: The changes in XAS, ODS and SRRC of the control foot (MAPB) and the trial foot (SPPY) in each follow-up

Variables	Visit 1 (day 0)		Visit 2 (day 7)		Visit 3 (day 14)		Visit 4 (day 21)	
	SPPY	MAPB	SPPY	MAPB	SPPY	MAPB	SPPY	MAPB
Mean total score for Xerosis assessment score	2.69 ± 0.55	2.73 ± 0.53	2.54 ± 0.64	2.58 ± 0.64	2.38 ± 0.80	2.46 ± 0.76	2.35 ± 0.74	2.42 ± 0.76
Mean total score for overall dry skin score	2.73 ± 0.72	2.73 ± 0.72	2.35 ± 0.85	2.42 ± 0.90	2.15 ± 0.73	2.23 ± 0.91	1.92 ± 0.69	2.08 ± 0.89
Mean total score for specified symptom sum score	8.00 ± 1.83	8.04 ± 1.89	7.12 ± 1.75	7.12 ± 1.82	6.50 ± 1.68	6.65 ± 1.98	6.38 ± 1.72	6.62 ± 2.06

Values expressed as mean \pm SD

Detailed analysis of the individual components of SRRC revealed specific improvements in both treatment groups. The prevalence of scaling in the MAPB foot reduced from 66.35% to 58.65%, while the SPPY foot demonstrated a reduction from 65.38% to 55.77%. Both cohorts exhibited identical baseline roughness percentages at 64.42%, which decreased to 46.15% by the final visit. Regarding redness, both groups showed a reduction from a baseline of 11.54% to 3.85%, indicating no statistically significant difference in efficacy for this specific domain between the two formulations. Finally, the percentage of clinical fissures (cracks) reduced from 58.65% pre-test to 52.88% post-test across both feet.

Paired t-test results of within-subject comparisons in the control foot (MAPB) and trial foot (SPPY) demonstrated statistically significant improvement across all parameters. Regarding the reduction in XAS, both groups demonstrated significant improvement; however, the magnitude of change was greater in the SPPY group ($t = 3.638$, $p = 0.001$) compared to the MAPB group ($t = 3.333$, $p = 0.003$). Similarly, for ODS, significant reductions were observed in both groups ($p < 0.0001$), with the SPPY group exhibiting higher t-values ($t = 7.263$) relative to the MAPB group ($t = 6.872$). Finally, marked improvements were noted in SRRC for both cohorts, with the SPPY group again demonstrating a greater magnitude of change ($t = 8.053$) than the MAPB group ($t = 7.353$); both results were highly significant ($p < 0.0001$). Detailed pre- and post-treatment comparisons for both groups are presented in Table 2.

Table 2: 't' results of control foot (MAPB) and trial foot (SPPY) before and after treatment

Variables		Paired differences					t	Degree of freedom	Significance (2-tailed)
		Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
XAS	MAPB_V1 - MAPB_V4	0.308	0.471	0.092	0.118	0.498	3.333	25	0.003
	SPPY_V1 - SPPY_V4	0.346	0.485	0.095	0.150	0.542	3.638	25	0.001
ODS	MAPB_V1 - MAPB_V4	0.654	0.485	0.095	0.458	0.850	6.872	25	0.0001
	SPPY_V1 - SPPY_V4	0.808	0.567	0.111	0.579	1.037	7.263	25	0.0001
SRRC	MAPB_V1 - MAPB_V4	1.423	0.987	0.194	1.024	1.822	7.353	25	0.0001
	SPPY_V1 - SPPY_V4	1.615	1.023	0.201	1.202	2.029	8.053	25	0.0001

A two-way repeated measures ANOVA with Greenhouse–Geisser correction was conducted to evaluate the effects of treatment and time on clinical outcome scores. There was a statistically significant main effect of time ($F=46.116$, $p<0.001$), demonstrating progressive improvement in scores across follow-up visits in both groups. However, neither the main effect of treatment ($F=1.808$, $p=0.191$) nor the treatment \times time interaction ($F=1.699$, $p=0.204$) reached statistical significance, indicating no difference between the standard and trial therapies in overall outcomes. Statistical analysis using two-way repeated measures ANOVA demonstrated that the trial drug is as effective as the standard treatment, with both interventions producing comparable clinical benefits over time. Repeated

measures ANOVA for ODS demonstrated a significant reduction in dryness scores over time in both the MAPB and SPPY groups. The profile plot in Figures 1, 2 and 3 indicates a consistent decline in mean scores across all four time points. Though the parallel nature of the trend lines suggests that both treatments followed a similar pattern, the SPPY group shows better trajectories of improvement over time.

Drug compliance and safety

Overall, 26 subjects completed the study with good drug compliance. No adverse events or drug interactions were reported at all time points of measurement. No further evaluation was carried out for long-term safety data.

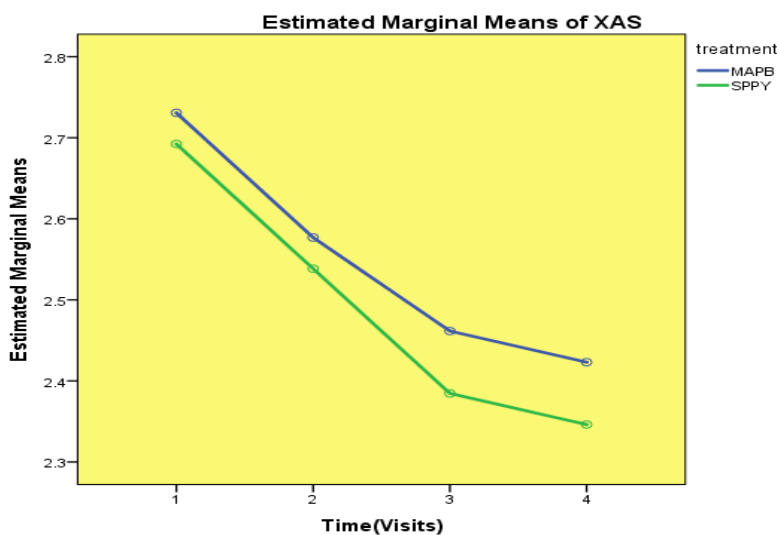


Figure 1: Changes in mean XAS scores over time points between SPPY and MAPB

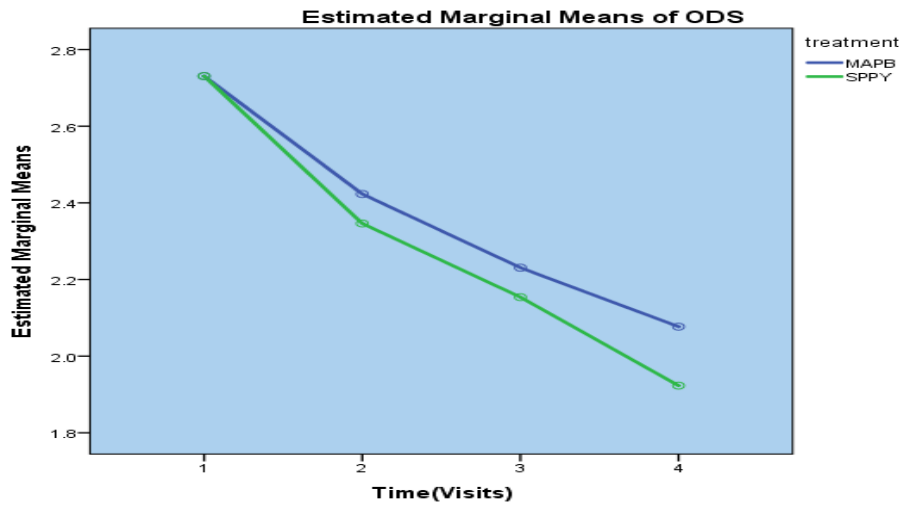


Figure 2: Changes in mean ODS scores over time points between SPPY and MAPB

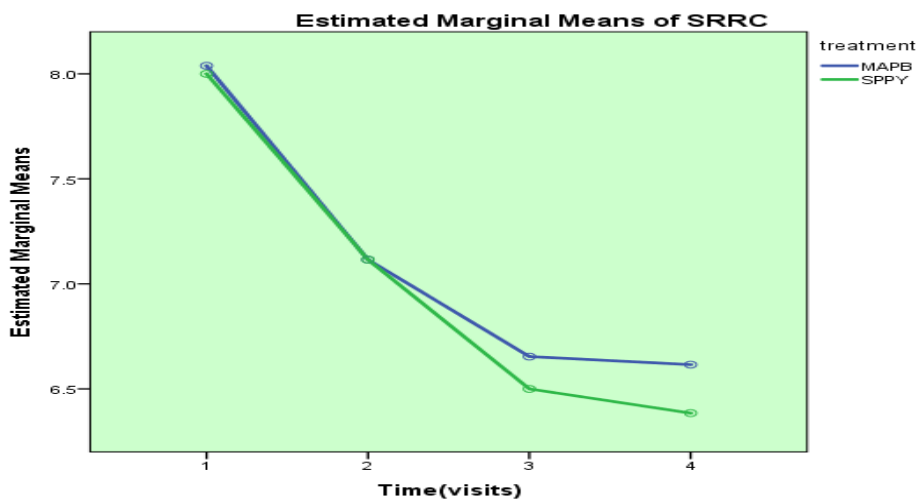


Figure 3: Changes in mean SRRC scores over time points between SPPY and MAPB

DISCUSSION

Foot xerosis, a frequently observed dermatological condition, often receives insufficient attention despite its significant impact on daily function and aesthetics. *Padadari*, a *Kshudra Roga* (minor disorder) described in Ayurveda, correlates closely with foot xerosis. *Padadari* is primarily attributed to *Vata Dosha*,^[9] which possesses attributes like *Ruksha* (dryness) and *Khara* (roughness). Aggravated or vitiated *Vata* leads to depletion of *Snigdha bhava* (unctuousness) and reduced elasticity. The Ayurvedic progression from *Rukshata* (dryness) and *Khara sparsha* (roughness) to *Darana* (fissuring) accurately reflects the pathophysiological sequence of barrier dysfunction, reduced skin elasticity, and increased trans-epidermal water loss. Furthermore, the exacerbation of *Padadari* by *Sheeta* (cold) and *Purovata* (dry wind) aligns with environmental triggers that aggravate xerosis, while the mechanical stress on the plantar surface exacerbates the cracking. Thus, the *Vata*-induced *Rukshata* and *Kharatva* in *Padadari* is comparable with epidermal barrier

dysfunction in plantar xerosis, supporting their clinicopathological correlation.

Occupational exposure appeared to be a key contributing factor. Most participants were engaged in housekeeping or domestic work involving prolonged standing, repeated friction, and frequent exposure to water and detergents, all of which can disrupt the epidermal lipid barrier and increase trans-epidermal water loss. Mechanical factors also played a significant role. Nearly half of the participants reported habitual barefoot walking, which increases friction and pressure on the heel, promoting hyperkeratosis, scaling, and fissure formation. While some utilized protective footwear, occupational demands forced the majority into barefoot walking and open footwear, poorly fitting footwear in some cases may have further aggravated mechanical stress. Overall, the findings highlight the combined influence of hormonal, occupational, and mechanical factors in the development of plantar xerosis. These findings emphasize the need for an effective emollient for the

management of *Padadari*. Additionally, strategies focusing on minimizing environmental exposure and reducing occupational mechanical stressors are essential to prevent recurrence.

The present study demonstrates that both SPPY and MAPB are effective in the management of *Padadari*, as evidenced by significant reductions in XAS, ODS, and SRRC scores following intervention. The improvement observed across all parameters in both groups highlights the importance of regular topical therapy in restoring skin hydration, reducing scaling, and improving fissures associated with plantar xerosis. Notably, although both interventions produced comparable outcomes on repeated measures ANOVA, the SPPY group consistently showed a greater magnitude of improvement across XAS, ODS, and SRRC scores. This suggests that while both are potent, the trial drug may offer a more profound therapeutic effect on reducing dryness and improving skin texture. This trend was particularly evident in ODS and overall severity reduction, suggesting a potentially superior emollient and reparative action of SPPY. Despite these numerical differences favouring SPPY, the absence of a statistically significant treatment effect and treatment × time interaction indicates that both SPPY and MAPB are therapeutically comparable. The significant time effect confirms that continued application over the study period leads to progressive clinical improvement. The parallel trend observed in profile plots further supports the conclusion that both treatments follow a similar pattern of efficacy over time.

The formulation contains *Sarjarasa* (resin of *Vateria indica* Linn.), *Saindhava Lavana* (rock salt), *Madhu* (honey), *Ghrita* (clarified butter), and *Katu Taila* (mustard oil) in equal proportion. *Sarjarasa* is described in Ayurveda under *Vedanasthapana Mahakashaya*, indicating its analgesic potential [10] and is also considered *Kushtagna* (acts against skin disorders) and *Vranaropaniya* (wound healing) [11]. Its *Ushna guna* (hot potency) can help alleviate the vitiated *Vata* and *Kapha*. Phytochemically, it contains bergenin, which exhibits anti-inflammatory activity, along with documented antimicrobial effects. Its anti-inflammatory effects, attributed to triterpenoids such as dipterocarpol, reduce local inflammation and irritation [12,13,14]. With its emollient effect, *Sarjarasa* enhances epithelialization and collagen formation, thereby facilitating healing of fissures associated with severe dryness. Additionally, its oleoresinous, occlusive nature reduces trans epidermal water loss and restores skin barrier function, ultimately improving dryness and scaling in foot xerosis [15]. *Saindhava Lavana* facilitates mild mechanical exfoliation, aiding in the removal of accumulated dead

skin cells and improving skin texture [16]. According to Ayurvedic properties, its *Ushna*, *Snigdha* and *Sukshma* (penetrating) *guna* [17] help in alleviating *Vata*, thereby reducing dryness and roughness. It also exhibits hygroscopic and mild antimicrobial properties, which support hydration balance and help prevent microbial colonisation in cracked skin [18]. From a pharmaceutical perspective, it functions as a natural preservative, potentially enhancing the stability and shelf life of the preparation [19]. *Madhu* is rich in fructose and glucose, which enable effective water absorption and retention within the superficial layers of the skin, thereby improving hydration [20]. In addition to its humectant action, honey exhibits antimicrobial and wound-healing effects, promoting epithelialization, which facilitates repair of xerotic skin [21]. From an Ayurvedic perspective, *Madhu* is described as *Vranaropana* and *Varnya* (complexion-enhancing), supporting tissue regeneration and restoration of skin integrity [22]. *Ghrita* and *Katu Taila*, the principal oleating components used in the formulation SPPY, contribute majorly to therapeutic efficacy. *Ghrita*, rich in saturated fatty acids and antioxidants, supports restoration of the skin barrier and enhances hydration of the stratum corneum. Its butyrate content is known to reduce oxidative stress and facilitate tissue repair [23], while its *Vranaropana* property aligns with its role in improving fissures [24]. Additionally, the presence of vitamin A further supports epithelial regeneration and collagen synthesis [25]. *Katu Taila* exhibits rubefacient and analgesic properties, which are beneficial in alleviating pain associated with cracks [26]. Its *Ushna* and *Teekshna* qualities may enhance local circulation and facilitate deeper penetration, promoting faster healing. From an Ayurvedic perspective, both *Ghrita* and *Katu Taila* possess *Vatahara* properties, which are particularly relevant in *Padadari* [27].

A cumulative understanding of the action of these drugs used in the formulation is emollient, anti-inflammatory, crack-healing, humectant, exfoliating and oleation.

Overall, the findings suggest that SPPY is as effective as the standard treatment MAPB in the management of *Padadari*, with a tendency toward better clinical improvement. These results support the use of SPPY as a viable alternative topical therapy. Further studies with larger sample sizes and longer follow-up may help to establish any definitive superiority and assess long-term benefits. There were no instances of adverse drug reactions (ADR) throughout the entire duration of the study.

CONCLUSION

The present study demonstrates that the *Sarjaadi Pada Pramarjana Yoga* (SPPY) formulation is an effective and safe topical intervention for the management of *Padadari* (foot xerosis). Both SPPY and the marketed standard drug produced significant clinical improvement across key outcome measures; however, SPPY exhibited a higher magnitude of improvement in reducing dryness and improving skin texture, suggesting a robust therapeutic trajectory. Its efficacy may be attributed to the synergistic exfoliative, emollient, humectant, wound-healing and anti-inflammatory properties of its constituents. The formulation is cost-effective, easily prepared, and well-tolerated, with no adverse events reported. Overall, SPPY can be considered a promising topical drug for *Padadari*, offering comparable efficacy with a strong pharmacological and Ayurvedic rationale. Further large-scale, long-term studies are recommended to validate its sustained efficacy.

Acknowledgement

The authors acknowledge the principal and the authority of Sri Dharmasthala Manjunatheshwara Institute of Ayurveda and Hospital, Bengaluru, for funding and providing necessary support for the study.

Source of support: Sri Dharmasthala Manjunatheshwara Institute of Ayurveda and Hospital, Bengaluru.

REFERENCES

1. Parker J, Scharfbillig R, Jones S. Moisturisers for the treatment of foot xerosis: a systematic review. *J Foot Ankle Res.* 2017; 10: 9.
2. Sharma S, Chaudhary B, Panesar S, Singh A. Study of geriatric dermatoses from a tertiary care teaching hospital of northern India. *IP Indian J Clin Exp Dermatol.* 2019; 5(3): 191-4.
3. Sivakumar M, Sivapriya N, Mathew AC, Chacko TV, Srinivas CR. Prevalence and correlates of fissure foot in a rural area in Tamil Nadu. *Indian Journal of dermatology, venereology and leprology.* 1999; 65(1): 26-27.
4. Prof. K.R. Srikantha Murthy. Chapter 55, Minor diseases, verse 24. In: *Madhava Nidanam roga Viniscaya of Madhavakara*, text with English translation. Chaukhamba Orientalia: Varanasi; p 180
5. Dr Madham Shetty Suresh Babu. Chapter 55, Ksudra Roga Cikitsa, verse 12. In: *Chakradatta of Chakrapani Datta*, originally known as *Cikitsa Sangraha*, English translation with Sanskrit text and notes. Chowkamba Krishnadas Academy: Varanasi; p 399.
6. Dr G. Prabhakara Rao. Chapter 60, Treatment of Kshudra roga, verse 15. In: *Bhaisajya Ratnavali of Kaviraj Shri Govind Das Sen, Shri Ramana Prabhakara Commentary*, English Translation. Chaukhamba Orientalia: Varanasi; p 397.
7. Martini, J., Huertas, C., Turlier, V., Saint-Martory, C. and Delarue, A. Efficacy of an emollient cream in the treatment of xerosis in diabetic foot: a double-blind, randomised, vehicle-controlled clinical trial. *J Eur Acad Dermatol Venereol.* 2017; 31: 743-7.
8. Serup J. EEMCO guidance for the assessment of dry skin (xerosis) and ichthyosis: clinical scoring systems. *Skin Research and Technology.* 1995 Aug; 1(3): 109-14.
9. Gupta, S., & Acharya, R. Management of Padadari (cracked feet) with Rakta Snuhi (*Euphorbia caducifolia* Haines.) based formulation: An open-labelled clinical study. *Ayu.* 2018; 39(4), 208.
10. Sinduja V, Salve R, Priya L. A brief review of Shweta Malahara. *World Journal of Pharmaceutical Research.* 2018 Sep 3; 7: 1584-1588.
11. Prof. K.R. Srikantha Murthy. *Sarjaka In: Bhavaprakasha of Bhavamisra* (Text, English Translation, Notes, Appendices and Index). Volume. Varanasi: Chowkhamba Krishnadas Academy; p 296
12. Mehdi Ali Mirzaa, Masihul Hasana, Satrasala Ramesha, Mohammed Rafiq H. Siddiquib, Merajuddin Khanc, Mohammed Rafi Shaikc, et al. *Vateria indica* resin-based ointment for topical treatment of radiation-induced burns. *Journal of King Saud University- Science.* March 2023; 35(5): 102659
13. John, R., Manilal, A., Varghese, L. S., & Govindarajan, S. (2024). Chemical composition, antimicrobial and antioxidant activities of *Vateria indica* L. oleo-gum resin (white dammar) essential oil. *Journal of Essential Oil-Bearing Plants*, 27(6), 1516-23.
14. Singh S, Singh TG, Mahajan K, Dhiman S. Medicinal plants used against various inflammatory biomarkers for the management of rheumatoid arthritis. *J Pharm Pharmacol.* 2020 Oct; 72(10): 1306-27.
15. Sourabh, D. S.; Pant, Champa; Pandey, Ainanda. Effect of Sarala Nirysa Malahara (Pine Resin Ointment), a Folklore Remedy for Padadari (Cracked Feet) in Adolescents: A Double-blind, Within-individual, Randomised, Vehicle-controlled, Pilot Study. *Indian Journal of Ayurveda and Integrative Medicine, KLEU.* Jul-Dec 2024 5(2): p 84-90.
16. Barel, A.O., Paye, M., & Maibach, H.I. (Eds.). *Handbook of Cosmetic Science and Technology* (4th ed.). CRC Press. (2014).

17. Vidyanath R. General properties of lavana, In: Illustrated Astanga Hrdaya of Vagbhata: Sutra-Sthana. Varanasi: Chaukhamba Surbharati Prakashan; 2025. p 127.
18. Chatterjee S, et al. Antimicrobial and physicochemical properties of rock salt. J Food Sci Technol. 2018; 55(6): 2321-7.
19. Rowe RC, Sheskey PJ, Quinn ME. Handbook of Pharmaceutical Excipients. 6th ed. Pharmaceutical Press; 2009.
20. Bogdanov S, Jurendic T, Sieber R, Gallmann P. Honey for nutrition and health: a review. J Am Coll Nutr. 2008; 27(6): 677-89.
21. Suwiński G, Nowak I. Innovative honey-based product and its beneficial effects measured by modern biophysical and imaging skin techniques. Pharmaceuticals. 2024 Dec 18; 17(12): 1709.
22. Prof. K. R. Srikantha Murthy. Chapter 6, Madhu Varga In: Bhāvaprakāśa of Bhavamisra (Text, English Translation, Notes, Appendices and Index). Volume-1. Varanasi: Chowkhamba Krishnadas Academy; p 485
23. Chavan M, Bachhav R, Bhamare M, Sharma Y, Surana K, Jadhav S, Mahajan S. Detailed Review of Shatdhaut Ghrita as a Base in Moisturising Cream. Research Journal of Pharmaceutical Dosage Forms and Technology. 2025; 17(1): 19-25.
24. Prof. K. R. Srikantha Murthy. Chapter 6, Ghrta Varga In: Bhāvaprakāśa of Bhavamisra (Text, English Translation, Notes, Appendices and Index). Volume-1, English Translation Volume-1. Varanasi: Chowkhamba Krishnadas Academy; p 470
25. Rai P, Poudyl AP, Das S. Pharmaceutical Creams and their use in wound healing: A Review. J. Drug Deliv. Ther. 2019 May 2; 9: 907-12
26. Thirumavalavan, M. An Overview of Black Mustard (Brassica nigra L.): Important Facts, Constituents, Health Benefits, Profuse Therapeutic Applications, and Adverse Effects: A Mini Review. Journal of Food Science. 2025; 90(11), e70653.
27. Prof. K. R. Srikantha Murthy. Chapter 6, Taila Varga. In: Bhāvaprakāśa of Bhavamisra (Text, English Translation, Notes, Appendices and Index), Volume-1. Varanasi: Chowkhamba Krishnadas Academy; p 476

Cite this article as:

Anarghya Acharya, Smitha Jain. Assessment of Therapeutic Efficacy of Sarjaadi Pada Pramajana Yoga in Padadari (Foot Xerosis): A Double-Blind, Randomised, within-Individual, Comparative Clinical Study. AYUSHDHARA, 2026;13(1):186-194.

<https://doi.org/10.47070/ayushdhara.v13i1.2550>

Conflict of interest: None Declared

***Address for correspondence**

Dr. Smitha Jain

Associate Professor,
Rasashastra and Bhaishajya Kalpana,
Sri Dharmasthala Manjunatheshwara
Institute of Ayurveda and Hospital,
Bengaluru, Karnataka.

Email: drsmithajn@gmail.com

Disclaimer: AYUSHDHARA is solely owned by Mahadev Publications - A non-profit publications, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. AYUSHDHARA cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of AYUSHDHARA editor or editorial board members.