ORIGINAL RESEARCH PAPER
Volume - 15 | Issue - 07 | July - 2026 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CLINICO-EPIDEMIOLOGICAL PROFILE OF PALMOPLANTAR DERMATOSES IN SOUTH INDIA: A HOSPITAL-BASED CROSS-SECTIONAL STUDY

Dermatology

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ABSTRACT

Background: Palmoplantar dermatoses are common outpatient problems because the palms and soles are exposed to friction, wet work and repeated environmental contact. In South India, barefoot walking and occupational moisture may influence the disease pattern. **Objective:** To assess the clinico-epidemiological profile of palmoplantar dermatoses among patients attending a tertiary-care dermatology outpatient department. **Methods:** This hospital-based cross-sectional study included 150 consenting patients with lesions over the palms and/or soles. Demographic details, symptom profile, predisposing factors, cutaneous findings, comorbidities, occupational exposure and provisional diagnosis were recorded using a structured proforma. KOH mount, biopsy and relevant investigations were performed when clinically indicated. Results were analysed descriptively using frequencies and percentages. **Results:** Males accounted for 78 (52.0%) cases and females for 72 (48.0%). Patients aged 21-40 years formed 84 (56.0%) cases. Itching was the commonest symptom, noted in 90 (60.0%), and 60 (40.0%) patients had symptoms for more than six months. Barefoot walking was reported by 72 (48.0%) and frequent wetness by 66 (44.0%). Both palms and soles were affected in 69 (46.0%), while symmetrical lesions were present in 105 (70.0%). Eczema was the leading provisional diagnosis in 33 (22.0%), followed by palmoplantar psoriasis in 30 (20.0%) and dermatophytosis in 24 (16.0%). **Conclusion:** Eczema and psoriasis constituted the major burden. Wet work, barefoot walking and informal occupational exposure appear clinically relevant and should be addressed during counselling.

KEYWORDS

Palmoplantar Dermatoses; Eczema; Psoriasis; Dermatophytosis

INTRODUCTION

Palmoplantar dermatoses comprise inflammatory, infective and keratinising disorders involving the palms and soles, either alone or as part of wider cutaneous disease. Their clinical importance is disproportionate to the small surface area involved: pain, fissuring and pruritus interfere with walking, gripping, household work and livelihood. Indian evidence has shown meaningful quality-of-life impairment, particularly when disease is chronic [1].

These disorders have a wide clinical spectrum, including eczema, psoriasis, dermatophytosis, keratoderma, warts and hyperhidrosis. Indian hospital-based series have documented substantial diagnostic diversity, with eczema, psoriasis and keratinising disorders repeatedly contributing major proportions [2,3]. Hyperkeratotic plaques, scales and fissures overlap clinically, sometimes requiring targeted mycological or histopathological assessment [4].

Exposure patterns are especially relevant in routine practice. Chronic hand eczema is strongly linked to repeated contact with water and irritants encountered in household and occupational work [5,6], while the sustained burden of dermatophytosis in India gives clinical significance to moisture, occlusion and barefoot practices [7,8]. Palmoplantar psoriasis can produce considerable functional limitation despite restricted body surface involvement [9,10]. This study aimed to describe the clinico-epidemiological profile of palmoplantar dermatoses in a South Indian tertiary-care outpatient cohort.

Materials and Methods

This hospital-based cross-sectional study was conducted at Bapuji Hospital and Chigateri Hospital, attached to J.J.M. Medical College, Davangere, Karnataka, India, among 150 patients attending the dermatology outpatient department with lesions over the palms and/or soles. Patients of any age and sex were included after consent; those unwilling to participate were excluded. A structured proforma captured demographic details, duration, onset, symptoms, seasonal variation, sweating, atopy, barefoot walking, systemic illness, family history, treatment history, occupational exposure, glove or footwear use and cutaneous findings. KOH mount, biopsy and blood investigations were performed when clinically indicated. Descriptive analysis was done using frequencies and percentages in SPSS version 26.0.

RESULTS

A total of 150 patients were included. The sex distribution was near equal, with 78 males (52.0%) and 72 females (48.0%). The 21-30 and 31-40 year groups together contributed 84 cases (56.0%). Housewives, farmers, labourers and informal workers formed an important share of the cohort, and middle socioeconomic status was most frequent. Key demographic and exposure variables are summarized in Table 1.

Table 1. Demographic and exposure profile of patients (n = 150).

Variable	Findings, n (%)
Sex	Male 78 (52.0); female 72 (48.0)
Age group	0-10 years 3 (2.0); 11-20 years 15 (10.0); 21-30 years 45 (30.0); 31-40 years 39 (26.0); 41-50 years 30 (20.0); >50 years 18 (12.0)
Occupation	Housewife 39 (26.0); farmer 21 (14.0); labourer 18 (12.0); office worker 12 (8.0); student 15 (10.0); others/vendor 45 (30.0)
Socioeconomic status	Low 60 (40.0); middle 75 (50.0); high 15 (10.0)
Selected exposures	Barefoot walking 72 (48.0); frequent wet hands/feet 66 (44.0); glove/footwear use 39 (26.0); chemicals 27 (18.0); plants 21 (14.0); metals 9 (6.0)

The presentation was usually chronic and insidious. Symptoms lasted more than six months in 60 patients (40.0%), and another 60 (40.0%) had symptoms for one to six months. Itching was the leading complaint, followed by scaling and fissuring. Bilateral palmoplantar involvement and symmetry were common. Clinical findings are shown in Table 2.

Table 2. Clinical history, examination findings and provisional diagnosis (n = 150).

Variable	Findings, n (%)
Duration and onset	<1 month 30 (20.0); 1-6 months 60 (40.0); >6 months 60 (40.0); spontaneous onset 45 (30.0); insidious onset 105 (70.0)
Symptoms	Itching 90 (60.0); scaling 48 (32.0); fissuring 33 (22.0); pain 30 (20.0); redness 27 (18.0); dryness 24 (16.0)
Season and sweating	Seasonal variation present 51 (34.0); summer among seasonal cases 24 (47.1); excess sweating 30 (20.0)

Site and distribution	Palms only 42 (28.0); soles only 39 (26.0); both palms and soles 69 (46.0); localized 96 (64.0); symmetrical 105 (70.0)
Lesion morphology	Plaque 36 (24.0); papule 27 (18.0); vesicle 21 (14.0); patch 18 (12.0); papulo-vesicles 24 (16.0); scales 66 (44.0); fissures 33 (22.0); crusts 21 (14.0)
Associated findings	Dorsal extension 42 (28.0); nail involvement 33 (22.0); past skin disease 24 (16.0); diabetes 21 (14.0); hypertension 15 (10.0); family history 18 (12.0)
Provisional diagnosis	Eczema (allergic/irritant) 33 (22.0); palmoplantar psoriasis 30 (20.0); dermatophytosis 24 (16.0); palmoplantar warts 12 (8.0); hyperhidrosis 12 (8.0); keratolysis exfoliativa 9 (6.0); pitted keratolysis 9 (6.0); others 21 (14.0)

Eczema, including allergic and irritant variants, was the most common provisional diagnosis (33/150, 22.0%), followed by palmoplantar psoriasis (30/150, 20.0%) and dermatophytosis (24/150, 16.0%). The complete diagnostic distribution is included in Table 2. Representative clinical morphology across selected palmoplantar presentations is displayed as a single consolidated panel in Figure 1.

Figure 1. Consolidated clinical panel illustrating representative palmoplantar dermatoses.

Note: A, bilateral palmar scaly plaques with superficial desquamation; B, palmoplantar psoriasis with hyperkeratotic plantar plaques and scaling; C, striate palmoplantar keratoderma showing linear hyperkeratotic thickening on the palms and digits; D, secondary syphilis presenting with bilateral plantar plaques; E, diffuse hereditary palmoplantar keratoderma with extensive plantar hyperkeratosis and fissuring. PPK, palmoplantar keratoderma.

DISCUSSION

In this study, palmoplantar dermatoses mainly affected young and middle-aged adults, with a slight male predominance and substantial representation of housewives and workers. Similar productive-age involvement has been documented in Central India [11], Northeast India [12] and Southern India [13]. The occupational distribution is clinically plausible because repetitive friction, wet work and household exposure act directly on the barrier function of acral skin.

Itching, scaling and fissuring were the principal symptoms; most presentations were prolonged and insidious. Barefoot walking and frequent wetness were notable exposures. The pattern supports preventive counselling on footwear, drying practices and reduction of irritant contact, alongside clinical assessment for psoriasis, eczema and infection. The bilateral and symmetrical distribution seen here also resembles patterns described in Indian palmoplantar psoriasis cohorts [14,15].

Eczema was the most frequent provisional diagnosis, closely followed by palmoplantar psoriasis and dermatophytosis. This ordering differs from series in which psoriasis led the spectrum [2,3,11,13], yet is similar to the Northeast Indian report in which eczema was most common [12]. The difference probably reflects local exposure profiles rather than a single biological explanation. The study is limited by its single-centre cross-sectional design and reliance on provisional diagnosis with investigations undertaken as clinically indicated. Even so, these findings support early recognition, counselling on modifiable exposure and selective use of KOH examination or biopsy when morphology overlaps.

CONCLUSION

Palmoplantar dermatoses in this South Indian tertiary-care cohort were dominated by eczema, psoriasis and dermatophytosis. Working-age adults were most affected, and the clinical pattern was shaped by wetness, barefoot walking and occupational exposure. Structured assessment with targeted investigations can improve diagnosis and counselling.

Source of Funding
Nil.

Conflict of Interest
None declared.

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