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Original Research Article

Rising Burden of Dermatophytosis in Rural Communities: Clinical Profile and Associated Risk Factors

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Abstract

Background: Dermatophytosis is a common superficial fungal infection with increasing prevalence in rural populations, particularly in tropical and subtropical regions. Recent years have witnessed a rise in chronic, recurrent, and treatment-resistant cases.

Objective: To evaluate the clinical profile of dermatophytosis and identify associated risk factors among patients from rural communities.

Materials and Methods: A prospective cross-sectional multicentric study was conducted from March 2025 to September 2025. One hundred patients with clinically diagnosed dermatophytosis were enrolled. Demographic details, clinical patterns, and predisposing factors were recorded. Diagnosis was confirmed clinically and supported by potassium hydroxide (KOH) microscopy where indicated.

Results: Tinea corporis and tinea cruris were the most prevalent clinical types. Male predominance was observed. Excessive sweating, occlusive clothing, misuse of topical corticosteroids, poor hygiene, and overcrowding were the most common associated risk factors.

Conclusion: Dermatophytosis represents a growing public health concern in rural areas. Addressing modifiable risk factors and promoting rational antifungal use are essential to reduce disease burden.

Keywords: Dermatophytosis, Tinea, Rural population, Risk factors, Cross-sectional study.

Introduction

Dermatophytosis is a superficial fungal infection caused by keratinophilic fungi of the genera Trichophyton, Microsporum, and Epidermophyton, affecting skin, hair, and nails [1,2]. It is among the most prevalent dermatological conditions worldwide, particularly in tropical countries with hot and humid climates [3].

India has witnessed a significant increase in dermatophytosis over the past decade, characterized by extensive disease, chronicity, recurrence, and reduced responsiveness to standard antifungal therapy [4,5]. This emerging trend has transformed dermatophytosis from a superficial infection into a challenging public health issue [6]. Rural populations are disproportionately affected due to factors such as agricultural occupations, prolonged sweating, occlusive clothing, poor hygiene, overcrowding, and limited access to dermatological care [7–9]. In addition, indiscriminate use of over-the-counter topical corticosteroid–antifungal combinations has altered the clinical presentation, leading to atypical lesions and persistent infections [10–12].

Several studies have highlighted the role of socioeconomic determinants, environmental conditions, and behavioral practices in the transmission of dermatophytosis [13–15]. However, multicentric prospective data focusing on rural settings remain limited [16].

Understanding the clinical spectrum and associated risk factors is essential for designing effective preventive strategies and guiding rational treatment policies [17–19]. The present study was undertaken to assess the clinical profile of dermatophytosis and identify associated risk factors among patients from rural communities.

Materials and Methods

Study Design: Prospective cross-sectional multicentric study.

Study Duration: March 2025 to September 2025 (7 months).

Study Population and Sample Size: One hundred patients with clinically diagnosed dermatophytosis.

Inclusion Criteria: Patients of all age groups with clinical features of dermatophytosis who provided informed consent.

Exclusion Criteria: Patients on systemic antifungal therapy within the previous four weeks and those unwilling to participate.

Data Collection: Demographic details, occupation, hygiene practices, clothing habits, family history, and prior treatment history were documented. Clinical examination was performed to determine type, site, and extent of lesions.

Diagnostic Methods: Diagnosis was primarily clinical and supported by KOH microscopy where required.

Statistical Analysis: Data were analyzed using descriptive statistics and expressed as frequencies and percentages.

Results and Discussion

The present study demonstrates a rising burden of dermatophytosis in rural communities. The predominance of tinea corporis and tinea cruris observed in this study is consistent with findings from other Indian and international studies [20,21].

Male predominance may be attributed to increased outdoor activity, occupational exposure, and higher sweating rates [22]. The widespread misuse of topical corticosteroid-containing combinations remains a major driver of chronic and recurrent dermatophytosis, as reported by several authors [10–12,23].

Socioeconomic factors such as overcrowding, poor hygiene, and shared use of personal items play a crucial role in disease transmission in rural settings [7,14,15]. Limited access to dermatological care and delayed treatment further contribute to disease persistence [16,24].

These findings emphasize the need for regulatory control of irrational topical formulations, community-based awareness programs, and strengthening of primary dermatological services in rural areas [17–19,25].

Limitations

Fungal culture and antifungal susceptibility testing were not performed. Seasonal variations could not be fully evaluated.

Conclusion

Dermatophytosis is an increasingly common and persistent problem in rural populations. Identification of modifiable risk factors, promotion of hygiene, and rational antifungal therapy are essential to curb this growing epidemic.

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