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# Evaluation of the Clinical Picture and Effectiveness of Antifungal Therapy in Tinea Corporis Cases in Tropical Areas: Literature Review

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**Abstract.** *Tinea corporis is a superficial dermatophyte infection of the skin commonly found in tropical regions due to hot and humid environmental conditions. This disease is characterized by well-defined, scaly, annular lesions accompanied by pruritus, and is influenced by various risk factors such as age, gender, personal hygiene, and comorbidities. Various topical and systemic antifungal therapies have been used in the treatment of tinea corporis, but their effectiveness can vary depending on the clinical presentation and patient characteristics. This study is a literature review conducted by reviewing research articles related to the clinical presentation and effectiveness of antifungal therapy in cases of tinea corporis in tropical regions. The literature search was conducted through Google Scholar, PubMed, ResearchGate, Elsevier, and NCBI databases. A total of 10 articles published between 2021 and 2025 that met the inclusion criteria were analyzed descriptively and synthesized narratively. The review indicates that Trichophyton rubrum is the most common cause of tinea corporis. Topical antifungal therapy is effective in mild to moderate cases, while systemic therapies such as itraconazole, terbinafine, and griseofulvin are more effective in extensive, chronic, or resistant cases. The combination of topical and systemic therapy shows a higher cure rate and reduces recurrence rates. The clinical presentation and response to therapy for tinea corporis in tropical regions are influenced by environmental factors, patient characteristics, and the choice of antifungal regimen. Appropriate clinical evaluation and rational use of antifungal therapy, both topical and systemic, are crucial for achieving optimal cure and preventing recurrence.*

**Keywords**: *Tinea Corporis, Clinical Presentation, Antifungal Therapy, Treatment Effectiveness, Tropical Regions.*

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## INTRODUCTION

Tinea corporis is a superficial fungal infection of the skin caused by dermatophytes, a group of keratinophilic fungi that invade the stratum corneum, hair, and nails (Sahoo & Mahajan, 2016; Meena & Bhadauria, 2024). The primary causative agents of tinea corporis include species from the genera Trichophyton, Epidermophyton, and Microsporum. Among these, Trichophyton species particularly Trichophyton rubrum are the most frequently implicated pathogens in human dermatophytosis worldwide (Chowdhary et al., 2022; Chanyachailert et al., 2023; Kruithoff et al., 2023; Nenoff et al., 2019). These organisms possess the ability to degrade keratin,

enabling them to colonize and proliferate on human skin, leading to chronic and recurrent infections if not adequately treated.

As a result, tinea corporis remains one of the most common forms of dermatomycosis encountered in clinical practice. Clinically, tinea corporis typically presents as an erythematous, annular lesion with a well-defined, raised, and active border accompanied by central clearing, commonly referred to as "ringworm." In the early stages, lesions appear as small, red, scaly patches that gradually enlarge and spread centrifugally. As the infection progresses, multiple lesions may develop and coalesce, forming polycyclic or irregular patterns on the skin surface.

Pruritus is a prominent symptom and often serves as the primary complaint leading patients to seek medical care (Chung et al., 2020; Charlesworth & Beltrani, 2002). Although the infection is generally not life-threatening, the persistent itching, cosmetic disfigurement, and risk of secondary bacterial infection can significantly impair patients' quality of life. Tinea corporis is a highly contagious condition with a global distribution, but its prevalence is markedly higher in tropical and subtropical regions (Rudramurthy & Shaw, 2019; Sharma & Nonzom, 2021; Chen & Yu, 2023). Warm temperatures, high humidity, and excessive sweating create an optimal environment for dermatophyte growth and transmission.

Consequently, tinea corporis is endemic in many tropical regions, including Southeast Asia, Central and South America, and parts of the South and Southwest Pacific. According to Kaestle et al. (2005); Rothstein & Edwards, (2005); Kaplan et al. (2009) the infection commonly affects adolescents and young adults after puberty, although it can occur at any age. Epidemiological data from Indonesia indicate that dermatophytosis accounts for approximately 53% of all fungal infections, with tinea corporis representing one of the most dominant clinical forms. Several studies have reported a higher prevalence among women, with the majority of affected individuals falling within the 40–50-year age range.

Transmission of tinea corporis occurs primarily through direct skin-to-skin contact with infected individuals or indirectly via contaminated objects such as clothing, towels, bedding, and sports equipment (Nowicka et al., 2020; Warsi et al., 2025). Poor personal hygiene, overcrowded living conditions, and inadequate sanitation significantly increase the risk of transmission. In tropical climates, excessive perspiration and prolonged skin moisture further facilitate fungal proliferation. Therefore, hygiene practices play a critical role in both the prevention and management of dermatophytosis. Inadequate hygiene and sanitation have been associated with persistent infections, frequent recurrences, and broader community transmission, posing a substantial public health challenge in resource-limited tropical settings (Ghazy et al., 2025; Sadiq, 2025; Chidzwondo & Mutapi, 2024; Branda et al., 2024; Gyapong et al., 2025).

The development and persistence of tinea corporis are influenced by multiple interrelated factors. Socioeconomic conditions such as poverty and limited access to healthcare contribute to delayed diagnosis and inappropriate treatment (Andrulis, 1998; Wang et al., 2015; de et al., 2023; Fiscella & Williams, 2004; Yamada et al., 2015). Behavioral factors, including poor personal hygiene, lack of awareness, and self-medication with topical corticosteroids, may worsen disease severity and promote chronicity. Additionally, diagnostic inaccuracies, insufficient patient education, and ecological changes such as urbanization and population density further exacerbate the burden of dermatophytosis in tropical regions (Bhat & Swathi, 2025; Ahmed et al., 2025; Urban et al., 2021). These multifactorial influences highlight the complexity of managing tinea corporis and underscore the need for comprehensive evaluation strategies.

Treatment of tinea corporis primarily involves antifungal therapy, which may be administered topically, systemically, or in combination, depending on disease severity, extent, and patient response. Topical antifungal agents are generally recommended for mild and localized infections, while systemic therapy is indicated for extensive, chronic, recurrent, or treatment-resistant cases. Several studies have demonstrated that combination therapy using both topical and systemic antifungals can accelerate clinical and mycological cure rates. In particular, systemic itraconazole combined with topical ketoconazole has shown favorable

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clinical outcomes in the treatment of superficial dermatophyte infections (Schaller et al., 2016; Grant & Clissold, 1989; Keshwania et al., 2023).

In recent years, the development of antifungal agents has progressed rapidly, offering new therapeutic options for dermatophytosis. Commonly used systemic antifungals include terbinafine, griseofulvin, itraconazole, and fluconazole. While these agents are generally effective, they differ in terms of pharmacokinetics, treatment duration, safety profiles, cost, and relapse rates. Terbinafine is often favored for its fungicidal activity, whereas itraconazole is widely used due to its broad-spectrum efficacy. However, emerging reports of treatment failure and variable response rates have raised concerns regarding antifungal resistance and inappropriate drug use. Each antifungal agent presents distinct advantages and limitations, necessitating careful consideration in clinical decision-making (Branda et al., 2025; Lewis, 2006; Kwizera et al., 2024; Brüggemann & Aarnoutse, 2015).

Based on the epidemiological burden, clinical variability, and therapeutic challenges associated with tinea corporis in tropical regions, a comprehensive evaluation of clinical features and antifungal treatment effectiveness is essential. Therefore, this study aims to evaluate the clinical manifestations and effectiveness of antifungal therapy in cases of tinea corporis in tropical regions. By synthesizing evidence from recent studies, this research seeks to identify prevailing clinical patterns and assess the comparative effectiveness of various antifungal regimens, thereby contributing to improved diagnostic accuracy and optimized treatment strategies for tinea corporis in tropical settings.

## METHODS

### Study Design

This study was conducted as a structured literature review using a transparent and reproducible evidence synthesis approach. Although a quantitative meta-analysis was not performed due to heterogeneity in study design, interventions, and outcome measurements, the review followed systematic principles in search, screening, eligibility determination, quality appraisal, and narrative synthesis. The methodological framework was developed a priori to minimize selection bias and post hoc decision-making. The review aimed to evaluate the clinical presentation and effectiveness of antifungal therapy in tinea corporis cases occurring in tropical regions, with particular emphasis on therapeutic outcomes, recurrence patterns, and safety profiles.

### Conceptual Framework and Eligibility Criteria

The review was guided by the PICOS framework (Population, Intervention, Comparison, Outcomes, Study Design), which was defined before conducting the search and screening process to ensure methodological consistency. The population included human participants diagnosed with tinea corporis based on clinical evaluation with or without mycological confirmation. Only studies conducted in tropical or subtropical regions were eligible. A tropical region was operationally defined as a country located between the Tropic of Cancer and the Tropic of Capricorn, a region classified under Köppen climate types Af, Am, or Aw, or a study explicitly describing its setting as tropical or subtropical. This operationalization was used to avoid subjective interpretation of geographic eligibility. The intervention included topical antifungal therapy (e.g., ketoconazole, terbinafine cream, clotrimazole) and systemic antifungal therapy (e.g., terbinafine, itraconazole, griseofulvin, fluconazole, voriconazole), administered either as monotherapy or combination therapy. The comparison group included placebo, alternative antifungal regimens, different dosing strategies, or monotherapy versus combination therapy. The primary outcomes were clinical cure (resolution of erythema, scaling, and pruritus), mycological cure (negative KOH microscopy or fungal culture), recurrence or relapse rates, treatment duration, and adverse events. Clinical cure and mycological cure were recorded separately to avoid conflation of symptomatic improvement with microbiological eradication. Eligible study designs included randomized controlled trials, assessor-blinded comparative trials,

prospective observational studies, retrospective cohort studies, and comparative clinical studies. Pure narrative reviews, editorials, expert opinions, and animal studies were excluded from the effectiveness synthesis.

**Literature Search Strategy**

A comprehensive literature search was conducted between January 10 and January 25, 2026. The databases were selected to ensure adequate coverage of dermatology and infectious disease research while maintaining methodological clarity regarding indexing platforms. The following databases were searched: PubMed (via the National Library of Medicine interface) Scopus (Elsevier's bibliographic indexing database) Google Scholar (advanced search interface). The term "Elsevier" was operationalized specifically as the Scopus database, which is an indexed bibliographic platform rather than the publisher website. "NCBI" was operationalized exclusively as PubMed to avoid ambiguity, as PubMed is the primary biomedical indexing resource under NCBI. ResearchGate was not used as a primary search database but only as a supplementary source to retrieve full texts of already identified eligible studies. Search strategies were adapted to each database. In PubMed, both MeSH terms and free-text keywords were used to enhance sensitivity. The search string included combinations of controlled vocabulary and Boolean operators as follows: ("Tinea Corporis"[MeSH] OR "tinea corporis" OR dermatophytosis) AND ("Antifungal Agents"[MeSH] OR antifungal therapy OR terbinafine OR itraconazole OR griseofulvin OR fluconazole OR voriconazole) AND (tropical OR "tropical region" OR subtropical) Filters were applied for publication date (January 1, 2021 to December 31, 2025), human subjects, and English or Indonesian language. In Scopus, the search was conducted using title, abstract, and keyword fields with the following string: TITLE-ABS-KEY ("tinea corporis" AND ("antifungal therapy" OR terbinafine OR itraconazole OR griseofulvin OR fluconazole OR voriconazole) AND (tropical OR subtropical)). The publication year filter was set to 2021–2025, and only research articles were included. In Google Scholar, the search string was: "tinea corporis" AND "antifungal therapy" AND tropical. The year range was limited to 2021–2025. To ensure methodological transparency, only the first 200 results sorted by relevance were screened. All retrieved records were compiled into a structured reference spreadsheet. Duplicate records were identified manually by comparing titles, authors, journal names, and DOIs, and were removed prior to screening.

**Study Selection Process**

The study selection process followed a structured multi-stage screening procedure. After duplicate removal, titles and abstracts were screened to assess relevance to the PICOS criteria. Studies were excluded at this stage if they did not focus on tinea corporis, did not evaluate antifungal therapy, were conducted outside tropical regions, or were not primary research studies. Full-text articles were then retrieved and assessed for eligibility based on predefined inclusion and exclusion criteria. Reasons for exclusion at the full-text stage were documented, including absence of separate data for tinea corporis, insufficient outcome reporting, non-tropical setting, or inappropriate study design. Screening was conducted independently by two reviewers. Discrepancies were resolved through discussion and consensus. No automated screening software was used. The final set of included studies consisted of ten articles published between 2021 and 2025 that met all eligibility criteria.

**Data Extraction**

A standardized data extraction form was developed prior to full-text review to ensure consistency and reproducibility. The following variables were extracted from each study: author and year of publication; country and climate classification; study design; sample size; diagnostic confirmation method (clinical diagnosis alone, KOH microscopy, fungal culture); severity classification; antifungal regimen including drug name, dosage, frequency, and duration; comparator intervention; definition of clinical cure; definition of mycological cure; follow-up duration; relapse time window; reported adverse events; and adherence information if available. Where full-text access was not available after reasonable retrieval attempts, only explicitly


 

reported outcomes from abstracts were extracted. Such studies were categorized as limited-data evidence and were interpreted cautiously during synthesis.

**Quality Assessment and Risk of Bias**

Methodological quality and risk of bias were assessed according to study design. Randomized controlled trials were evaluated using domains consistent with the Cochrane Risk of Bias framework, including randomization process, allocation concealment, blinding, completeness of outcome data, and selective reporting. Observational and retrospective studies were assessed using criteria adapted from the Newcastle–Ottawa Scale, focusing on participant selection, comparability of groups, and outcome assessment. Studies were not excluded solely based on quality assessment; however, risk-of-bias appraisal influenced the interpretive weight assigned during synthesis. Randomized and blinded trials were considered higher-strength evidence for comparative effectiveness, whereas retrospective descriptive studies were primarily used to contextualize clinical patterns.

**Data Synthesis**

Due to heterogeneity in treatment regimens, outcome definitions, and follow-up durations, statistical pooling and meta-analysis were not feasible. Therefore, a structured narrative synthesis approach was employed. Studies were grouped according to thematic domains: clinical and demographic presentation patterns; comparative effectiveness of systemic antifungal therapies; topical versus systemic therapy; and combination therapy strategies. Clinical cure and mycological cure were analyzed separately. Short-term treatment response was distinguished from long-term recurrence to prevent overinterpretation of early clinical improvement. When conflicting findings were identified, greater interpretive weight was assigned to studies with stronger methodological design and lower risk of bias. Patterns of consistency across multiple studies were used to support conclusions, rather than relying on single-study findings.

**Methodological Limitations**

Several limitations inherent to the review design were acknowledged. Restricting inclusion to publications between 2021 and 2025 may exclude earlier foundational evidence; however, this restriction was intentionally applied to reflect contemporary resistance patterns and evolving antifungal dosing strategies. The inclusion of heterogeneous study designs limits direct comparability of outcomes; therefore, conclusions were stratified by study type and causal language was avoided when interpreting observational data. The relatively small number of included studies reduces generalizability, and findings were interpreted conservatively. Finally, the absence of meta-analysis precludes pooled effect estimation; conclusions were therefore based on consistency of reported outcomes across studies rather than quantitative effect size aggregation.

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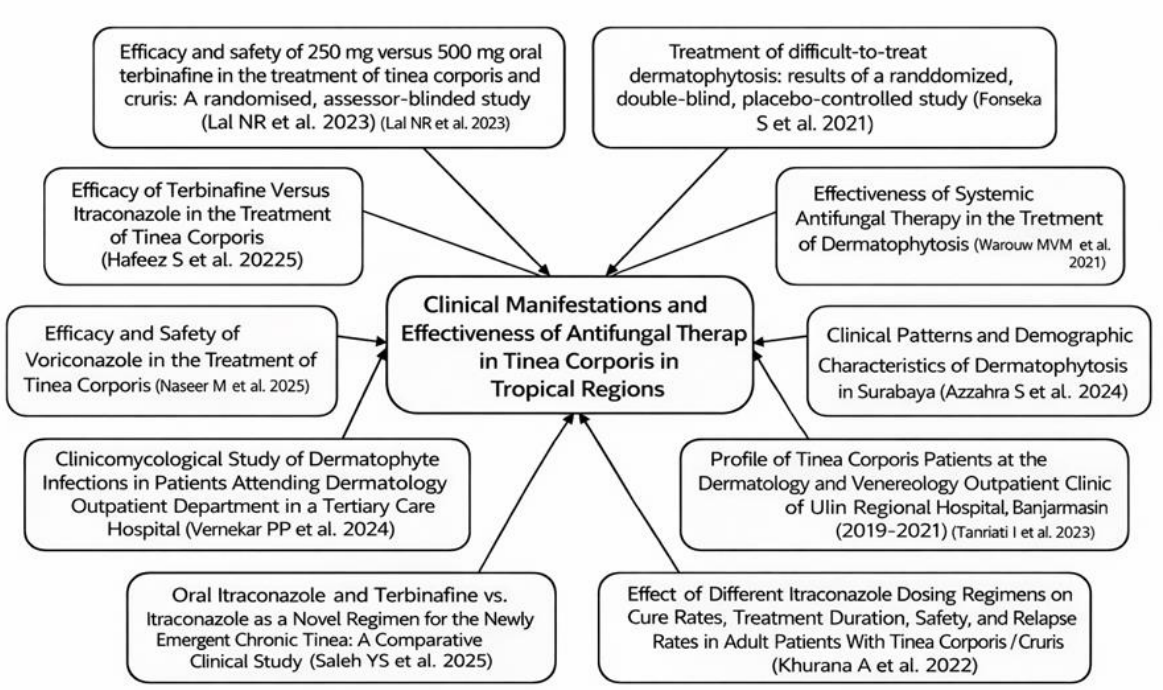


Figure 1. Conceptual Framework of the Literature Review on Tinea Corporis in Tropical Regions

This figure illustrates the conceptual framework of the literature review examining the clinical manifestations and effectiveness of antifungal therapy in Tinea corporis cases in tropical regions. The central theme is supported by findings from selected national and international studies published between 2021 and 2025. These studies address various aspects, including antifungal treatment efficacy (terbinafine, itraconazole, and voriconazole), dosing regimens, treatment safety, clinical outcomes, relapse rates, and demographic and clinical characteristics of dermatophytosis patients. Collectively, these studies provide a comprehensive foundation for analyzing therapeutic effectiveness and clinical patterns of Tinea corporis in tropical settings.

## RESULT AND DISCUSSION

### Study Characteristics and Evidence Profile

A total of ten studies published between 2021 and 2025 fulfilled the predefined eligibility criteria and were included in the final synthesis. The methodological composition of the included evidence was heterogeneous, reflecting the current state of research on tinea corporis in tropical regions. Four studies employed randomized or assessor-blinded comparative trial designs, providing higher internal validity for evaluating therapeutic effectiveness. Two studies used prospective observational designs, two were retrospective descriptive hospital-based analyses, one was a comparative clinical study without full randomization, and one was a structured literature review. Sample sizes varied substantially, ranging from 30 to 227 participants, which has implications for statistical power and precision of reported cure rates. The majority of studies were conducted in tropical or subtropical Asian countries, including Indonesia, India, Pakistan, and Sri Lanka, regions characterized by high humidity and temperature that facilitate dermatophyte transmission. However, despite geographic concentration in tropical Asia, variability in healthcare infrastructure, prescribing patterns, and patient health-seeking behavior likely contributed to differences in reported outcomes.

Diagnostic confirmation methods differed considerably across studies and represent an important source of methodological heterogeneity. Randomized controlled trials and prospective studies more frequently required mycological confirmation using potassium hydroxide (KOH) microscopy and, in some cases, fungal culture before enrollment and at follow-up assessment. In contrast, several retrospective descriptive studies relied primarily on clinical diagnosis

documented in medical records, without consistent laboratory confirmation. This variation is clinically significant because clinical resolution does not always equate to mycological eradication, and reliance on symptom improvement alone may overestimate cure rates. Studies incorporating laboratory confirmation provide stronger evidence regarding true antifungal effectiveness, whereas clinically diagnosed cases are more vulnerable to misclassification bias, particularly in settings where other dermatoses may mimic tinea corporis.

Follow-up duration also varied across studies, ranging from four to twelve weeks, with relapse assessment inconsistently reported. Shorter follow-up periods tended to report higher apparent cure rates, as early clinical improvement was often recorded before late recurrence could be detected. In studies that extended follow-up beyond eight weeks, relapse rates were more frequently observed, particularly among chronic or previously treated cases. The absence of standardized relapse definitions further complicates comparison, as some studies defined relapse as recurrence within weeks of therapy completion, while others did not specify a time frame. This inconsistency limits direct quantitative comparison across trials and underscores the importance of interpreting reported cure rates in light of follow-up duration and outcome definitions.

From an evidence hierarchy perspective, randomized controlled trials offered the most robust data regarding comparative efficacy between antifungal regimens, including dosing strategies and monotherapy versus combination therapy. These trials minimized confounding and selection bias, although some were limited by modest sample sizes. In contrast, retrospective descriptive studies provided valuable epidemiological insights into demographic distribution, lesion characteristics, and prescribing trends in real-world tropical clinical settings. However, such studies inherently carry greater risk of selection bias, incomplete outcome documentation, and confounding variables. Therefore, while all included studies contribute to understanding the clinical landscape of tinea corporis in tropical regions, greater interpretive weight must be assigned to randomized and prospective comparative evidence when drawing conclusions about therapeutic superiority.

**Clinical Presentation and Demographic Patterns in Tropical Regions**

Across the included studies, tinea corporis most commonly affected adults between 20 and 50 years of age, representing the economically active population with high occupational and environmental exposure. Several hospital-based studies conducted in tropical Asian settings reported a slight female predominance, although this pattern may reflect healthcare-seeking behavior rather than true biological susceptibility. In some communities, women are more likely to seek dermatological consultation for visible skin lesions, whereas men may delay treatment. Nevertheless, the overall age distribution suggests that increased mobility, sweating, occupational exposure, and close interpersonal contact contribute significantly to transmission dynamics in tropical climates.

Clinically, the predominant presentation was annular erythematous plaques with well-demarcated, scaly, and raised active margins accompanied by central clearing. Pruritus was consistently reported as the most frequent and distressing symptom, often prompting medical consultation. In moderate-to-severe cases, lesions were described as multiple, confluent, or polycyclic, particularly in chronic infections. Some studies also noted atypical morphologies, especially in patients with prior corticosteroid misuse, where lesions appeared less inflammatory and more diffuse, complicating diagnosis. These findings highlight that while the classic "ringworm" appearance remains common, clinical variability increases in chronic or previously treated cases, particularly in tropical settings where over-the-counter steroid use is prevalent.

Chronic and recurrent dermatophytosis emerged as a significant concern across multiple studies. Chronicity was frequently associated with inappropriate topical corticosteroid application, incomplete treatment duration, subtherapeutic dosing, or irregular adherence. In addition, delayed healthcare access in resource-limited tropical regions may allow infections to progress before appropriate therapy is initiated. Studies examining comorbid conditions,

particularly diabetes mellitus, reported more extensive lesion distribution, prolonged treatment duration, and higher relapse tendency in affected individuals. This suggests that host immune status and metabolic control may influence fungal persistence and therapeutic responsiveness, reinforcing the importance of individualized treatment planning based on patient comorbidity profiles.

Environmental and contextual determinants unique to tropical regions were repeatedly cited as contributing factors to sustained transmission and recurrence. Persistent high humidity, elevated temperatures, excessive perspiration, overcrowded living conditions, and shared clothing practices create favorable conditions for dermatophyte survival and reinfection. However, despite frequent acknowledgment of these factors, only a limited number of studies systematically analyzed environmental or socioeconomic variables as modifiers of treatment outcomes. Most investigations described tropical climate descriptively rather than incorporating quantitative environmental stratification. This lack of structured environmental analysis represents an important research gap, as recurrence and chronicity in tropical dermatophytosis likely result from the interaction between host factors, treatment adequacy, and persistent environmental exposure.

**Comparative Effectiveness of Systemic Antifungal Therapy**

Four randomized or controlled comparative studies specifically evaluated systemic antifungal therapy for tinea corporis in tropical or subtropical settings, with itraconazole and terbinafine emerging as the most frequently investigated agents. These trials were primarily conducted in regions experiencing increasing reports of chronic and recurrent dermatophytosis, which has shifted treatment patterns toward systemic therapy even in cases that might previously have been managed topically. Across studies, systemic therapy was generally reserved for moderate-to-severe disease, extensive lesions, chronic infection, or prior treatment failure. While both itraconazole and terbinafine demonstrated substantial effectiveness, differences in dosing strategy, study design, and follow-up duration significantly influenced reported cure rates, underscoring the importance of contextual interpretation rather than simple numerical comparison.

Dose-comparison trials of itraconazole revealed that higher daily doses, particularly 400 mg, were associated with faster clinical improvement and higher short-term cure rates compared with 100 mg or 200 mg regimens. Patients receiving 400 mg daily often achieved more rapid lesion resolution and symptom reduction within the early treatment window. However, relapse rates were not eliminated with dose escalation, and in some studies recurrence occurred across all dosing groups during extended follow-up. This suggests that increasing dosage may enhance early fungistatic or fungicidal activity but does not fully address underlying factors contributing to recurrence, such as environmental re-exposure, incomplete mycological eradication, host susceptibility, or potential emerging resistance. Therefore, while higher-dose itraconazole may accelerate short-term clinical response, its long-term superiority remains uncertain.

Comparative trials between itraconazole and terbinafine generally reported slightly higher clinical and mycological cure rates with itraconazole, although differences were modest and not consistently statistically significant. Reported cure rates for both agents typically fell within a broad range of approximately 70% to 90%, depending on outcome definition and follow-up length. Importantly, one assessor-blinded trial comparing terbinafine 250 mg versus 500 mg daily found no meaningful difference in clinical or mycological outcomes between the two dosing strategies. This finding suggests that dose escalation of terbinafine does not necessarily translate into proportional therapeutic benefit and has important implications for safety and cost-effectiveness, particularly in tropical low-resource settings where prolonged systemic therapy increases financial burden and potential hepatotoxicity risk.

Voriconazole demonstrated a complete cure rate of approximately 85.5% within 12 weeks in a prospective observational study, positioning it as a potentially effective alternative agent. However, the absence of randomization and lack of direct comparison with first-line agents limit

the strength of this evidence. Without head-to-head trials against itraconazole or terbinafine, conclusions regarding relative superiority cannot be drawn. Furthermore, heterogeneity in diagnostic confirmation methods particularly differences between studies reporting purely clinical cure versus those requiring mycological negativity reduces the precision of cross-study comparison. Taken together, current evidence supports both itraconazole and terbinafine as effective systemic therapies for tinea corporis in tropical regions, but magnitude differences appear modest, context-dependent, and influenced by study design and outcome measurement rather than reflecting unequivocal therapeutic dominance.

This study employed the PICOS framework to guide the identification, selection, and collection of relevant research articles. Article selection was based on five key components aligned with the research objectives. The population component focused on individuals or patients diagnosed with *Tinea corporis* in tropical regions. The intervention component included the administration of antifungal therapy, either topical or systemic. The comparison component involved patients receiving alternative treatments, placebo therapy, or no antifungal intervention. The outcome component emphasized the clinical presentation of *Tinea corporis* and the effectiveness of antifungal therapy, including symptom improvement, lesion resolution, and recurrence rates. Finally, the study design component encompassed observational studies, cohort studies, randomized controlled trials, and prospective studies that examined the clinical characteristics and therapeutic effectiveness of antifungal treatment for *Tinea corporis*.

Relevant research articles were systematically curated from multiple online databases using predefined keywords tailored to each search platform. The primary search terms included "*tinea corporis*" to identify the disease and "antifungal therapy" to capture studies related to treatment interventions. Following the search process, all retrieved articles were screened, reviewed, and analyzed according to the PICOS framework to ensure methodological relevance and alignment with the inclusion criteria. The findings were then synthesized and presented in the form of a descriptive literature review, summarizing evidence from each selected study regarding the clinical manifestations and effectiveness of antifungal therapy for *Tinea corporis* in tropical regions.

Table 1. Summary of Included Studies on Tinea Corporis and Antifungal Therapy

| No | Article | Study Design | Research Objective | Participants | Key Findings | Conclusion |
|---|---|---|---|---|---|---|
| 1 | Treatment of Difficult-to-Treat Dermatophytosis: Results of a Randomized, Double-Blind, Placebo-Controlled Study (Fonseka et al., 2021) | Randomized, double-blind, placebo-controlled trial | To evaluate the effectiveness of modified Whitfield ointment combined with oral griseofulvin in difficult-to-treat dermatophytosis | 30 patients with difficult-to-treat dermatophytosis | Greater clinical improvement in the treatment group, including reduced lesion area and improved subjective symptoms | The combination therapy is effective, safe, and affordable for difficult-to-treat dermatophytosis in tropical regions |
| 2 | Effectiveness of Systemic Antifungal Therapy in Dermatophytosis (Warouw MWM et al., 2021) | Literature review | To assess the effectiveness of various systemic antifungal agents in dermatophytosis | 10 selected articles | Treatment effectiveness varied depending on antifungal type and treatment duration | Systemic antifungals (griseofulvin, terbinafine, azoles) are effective for treating dermatophytosis |
| 3 | Clinical Patterns and Demographic Characteristics of | Descriptive retrospective study | To describe clinical patterns, demographic | Medical records of patients (2017–2022) | Tinea corporis and tinea cruris were | Understanding clinical and demographic |

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|---|---|---|---|---|---|---|
| | Dermatophytosis in Surabaya (Azzahra et al., 2024) | | characteristics, and treatment profiles of dermatophytosis | | most common; majority were adult females; griseofulvin and ketoconazole cream were frequently used | patterns supports effective management strategies in tropical regions |
| 4 | Effect of Different Itraconazole Dosing Regimens on Cure Rates, Treatment Duration, Safety, and Relapse Rates in Adult Patients with Tinea Corporis and Tinea Cruris (Khurana et al., 2022) | Randomized clinical trial | To compare itraconazole doses of 100 mg, 200 mg, and 400 mg | 149 adult patients with tinea corporis/cruris | The 400 mg dose achieved the highest cure rate and shortest treatment duration; relapse remained significant | Itraconazole is effective at all doses, with 400 mg showing superior efficacy despite higher cost |
| 5 | Profil pasien tinea korporis di poliklinik kulit dan kelamin RSUD Ulin Banjarmasin periode 2019-2021 (2019–2021) (Tanriati et al., 2023) | Retrospective descriptive study | To describe the clinical and demographic profile of tinea corporis patients | 86 patients with tinea corporis | Most patients were females aged 36–45 years; lesions were macular with scaling and active margins; combined topical and systemic therapy was common | Clinical profiling aids understanding of demographic distribution and treatment patterns in tropical areas |
| 6 | Efficacy of Terbinafine Versus Itraconazole in the Treatment of Tinea Corporis (Hafeez et al., 2025) | Randomized controlled trial | To compare the effectiveness of terbinafine and itraconazole | 120 adult patients with tinea corporis | Clinical and mycological cure rates were slightly higher with itraconazole; adverse effects were minimal | Itraconazole showed higher efficacy, while terbinafine remains a safe and effective alternative |
| 7 | Oral Itraconazole and Terbinafine Versus Itraconazole as a Novel Regimen for Newly Emergent Chronic Tinea: A Comparative Clinical Study (Saleh et al., 2025) | Comparative clinical study | To evaluate combination therapy versus itraconazole monotherapy in chronic tinea | 150 adult patients with chronic tinea | Combination therapy resulted in faster cure and lower relapse rates | Combination antifungal therapy is more effective for chronic tinea than monotherapy |

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|---|---|---|---|---|---|---|
| 8 | Clinico-Mycological Study of Dermatophyte Infections in Patients Attending the Dermatology Outpatient Department of a Tertiary Care Hospital (Vernekar et al., 2024) | Observational descriptive study | To describe clinical patterns, fungal species, and treatment response | 200 patients with dermatophytosis | Tinea corporis was most common; Trichophyton rubrum predominated; good response to terbinafine and itraconazole | Clinical and mycological evaluation is essential for selecting appropriate antifungal therapy |
| 9 | Efficacy and Safety of Voriconazole in the Treatment of Tinea Corporis and Cruris Infections (Naseer et al., 2025) | Prospective observational study | To assess the efficacy and safety of oral voriconazole | 227 adult patients | Complete cure rate of approximately 85.5% within 12 weeks; adverse effects were mild | Voriconazole is effective and safe, particularly for newly diagnosed or moderate cases |
| 10 | Efficacy and Safety of 250 mg Versus 500 mg Oral Terbinafine in the Treatment of Tinea Corporis and Cruris: A Randomized, Assessor-Blinded Comparative Study (Lal et al., 2023) | Randomized, assessor-blinded comparative study | To compare the effectiveness of oral terbinafine 250 mg versus 500 mg | 140 adult patients with tinea corporis and cruris | No significant difference in clinical or mycological cure rates between the two doses; both doses were well tolerated | Both doses are safe and effective; the 250 mg dose is sufficient for routine treatment |

**Evaluation Of the Clinical Image and Effectiveness of Antifungal Therapy in Cases of Tinea Corporis in Tropical Regions**

Tinea corporis, also known as ringworm, is a superficial dermatophyte infection of the skin, excluding the hands (tinea manuum), feet (tinea pedis), scalp (tinea capitis), bearded area (tinea barbae), face (tinea faciei), groin (tinea cruris), and nails (onychomycosis or tinea unguium). Tinea corporis is most often caused by dermatophytes belonging to one of three genera: Trichophyton (which causes infections of the skin, hair, and nails), Microsporum (which causes infections of the skin and hair), and Epidermophyton (which causes infections of the skin and nails). Tinea corporis is a superficial dermatophyte infection frequently found in tropical regions due to the hot and humid environment, which favors fungal growth. This disease is characterized by annular, well-defined, scaly lesions, often accompanied by itching, with severity varying depending on host factors such as age, gender, and the presence of comorbidities such as diabetes mellitus. Evaluation of the clinical presentation and effectiveness of antifungal therapy in tinea corporis cases in tropical regions is important to assess the response to treatment, both with topical and systemic antifungals, and to determine the most appropriate therapy option to achieve optimal healing and prevent recurrence.

Research by Fonseka et al. (2021) demonstrated that the combination of modified Whitfield ointment with griseofulvin was effective in treating difficult-to-treat dermatophytosis. The rate of clinical improvement was higher than the placebo group, highlighting the importance of using a combination of topical and systemic therapy in resistant cases, particularly in tropical regions.

These findings align with a study by Warouw (2021) confirmed that systemic antifungals such as griseofulvin, terbinafine, and azoles have been shown to be effective against dermatophytosis, although effectiveness can vary depending on the type of drug and duration of therapy. A descriptive study in Surabaya by Azzahra et al. (2024) revealed that tinea corporis and tinea cruris are the most common forms of dermatophytosis, with the majority of patients being adult women. The most frequently used therapy is a combination of griseofulvin and ketoconazole cream. These results support the findings of Tanriati et al. (2023) who described the profile of tinea corporis patients at Ulin Regional Hospital in Banjarmasin, with an age distribution of 36–45 years and clinical lesions consisting of macules, scales, and active margins. Both studies emphasize that understanding patient clinical and demographic characteristics is crucial for designing effective treatment strategies in tropical regions.

Clinical research by Khurana et al. (2022) showed that a 400 mg dose of itraconazole resulted in higher cure rates and shorter therapy durations compared to lower doses, although relapses still occurred. These findings indicate the need for appropriate dose selection based on the patient's clinical condition. These results are supported by Hafeez et al. (2025) who compared terbinafine and itraconazole, showing that itraconazole was slightly superior in clinical and mycological cure, while terbinafine remained a safe alternative. A study by Saleh et al. (2025) highlighted the effectiveness of the combination of itraconazole and terbinafine in newly emerging chronic tinea versicolor, with faster cure rates and lower relapse rates compared to monotherapy. This supports the strategy of using antifungal combinations in chronic or resistant cases to improve treatment outcomes. These results align with the observational study by Vernekar et al. (2024), which confirmed the dominance of Trichophyton rubrum in tinea corporis and a favorable response to both terbinafine and itraconazole therapy, making it important to tailor the choice of antifungal to the dermatophyte type.

Naseer et al. (2025) found voriconazole to be effective and safe for the treatment of tinea corporis and cruris, with a complete cure rate of approximately 85.5% within 12 weeks. This study adds an alternative therapeutic option for cases that do not respond to first-line drugs. Meanwhile, Lal et al. (2023) demonstrated that terbinafine doses of 250 mg and 500 mg were equivalently effective and well tolerated, suggesting that standard doses can be used as routine therapy without compromising clinical outcomes. Overall, the literature confirms that managing tinea corporis in tropical regions requires an individualized approach based on clinical characteristics, dermatophyte type, and patient condition. Combination therapy with systemic and topical antifungals has shown greater effectiveness in chronic or resistant cases, while the choice of dosage and type of antifungal should be tailored to minimize relapse and side effects. Understanding the clinical presentation and patient profile is key to improving the success of antifungal therapy in tropical regions.

## CONCLUSION

Based on the results of the literature review and analysis, it can be concluded that tinea corporis is a dermatophyte infection that commonly occurs in tropical regions due to hot and humid environmental factors, and is influenced by individual characteristics such as age, gender, personal hygiene, and comorbid conditions, particularly diabetes mellitus. The clinical presentation of tinea corporis is generally typical, consisting of annular lesions with active, scaly edges and pruritus. However, clinical variations can occur depending on the severity of the infection, the patient's immune response, and the duration of the disease. The effectiveness of antifungal therapy in tinea corporis cases in tropical regions shows good results when treatment is administered appropriately and according to indications. Topical antifungals are effective in mild to moderate cases, while systemic therapy is necessary for extensive, chronic cases, or in patients with certain risk factors. The success of therapy is influenced by patient compliance, the choice of antifungal agent, the duration of treatment, and efforts to prevent predisposing factors such as excess moisture and suboptimal hygiene. Therefore, a thorough evaluation of the clinical presentation and response to antifungal therapy plays a crucial role in the management of tinea corporis in tropical regions. A comprehensive approach, including accurate diagnosis, rational


 

therapy, and patient education regarding prevention and skin care, is expected to increase cure rates, reduce the risk of recurrence, and improve patients' quality of life.

## SUGGESTIONS

Improve early detection of tinea corporis through routine clinical examinations, especially in individuals living in tropical regions and experiencing risk factors such as high humidity, suboptimal personal hygiene, and comorbidities such as diabetes mellitus. Strengthen the implementation of rational, evidence-based antifungal therapy guidelines, including the use of topical and systemic antifungals, tailored to the severity, extent of lesions, and patient condition. Improve education for healthcare workers in primary care facilities regarding the varying clinical presentations of tinea corporis, appropriate therapy options, and the importance of adequate treatment duration to prevent resistance and recurrence. Develop community education programs on tinea corporis prevention, including the importance of maintaining skin hygiene, avoiding sharing personal items, keeping skin dry, and seeking prompt treatment at the first sign of symptoms. Improve patient adherence to antifungal therapy through effective counseling regarding medication use, duration of treatment, and the importance of completing therapy even if symptoms have improved. Further research with prospective designs and wider population coverage is needed to evaluate the effectiveness of various antifungal regimens, factors influencing therapeutic success, and the recurrence rate of tinea corporis in tropical regions.

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