

# Retrospective Analysis of Treatment for Tinea Corporis

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## Abstract

This retrospective study aimed to explore effective treatment strategies for tinea corporis. By analyzing data from 120 relevant studies retrieved from the PubMed database between January 2021 and December 2024, patient characteristics, treatment methods, and their impacts on symptom relief, recurrence prevention, and patient prognosis were investigated. The results showed that a combination of topical antifungal medications, proper skin care, and patient education could effectively treat tinea corporis, significantly reduce the recurrence rate, and improve patient recovery. These findings provide evidence - based references for optimizing the treatment of tinea corporis in clinical practice.

**Keywords:** Trichophyton; Microsporum; Epidermophyton; Tinea corporis; Imidazoles; Allylamines; Benzylamines

## Introduction

Tinea corporis is a common superficial fungal infection caused mainly by dermatophytes, such as Trichophyton, Microsporum, and Epidermophyton [1]. It is characterized by well - defined, circular, itchy, and scaly lesions on the trunk, extremities, and other non - hairy areas of the body [2]. Tinea corporis can be highly contagious, spreading through direct contact with infected individuals, animals, or contaminated objects. If not properly treated, it may lead to chronic infections, secondary bacterial infections, and affect patients' quality of life [3]. Although topical antifungal medications are the primary treatment, the optimal treatment approach, including the choice of drugs, treatment duration, and adjunctive measures, remains an area of active research [4]. This retrospective analysis, based on data from the PubMed database, aimed to summarize existing research, identify effective treatment strategies, and offer guidance for clinical practice.

## Materials and Methods

### Data Source

A systematic search was conducted in the PubMed database using keywords such as "tinea corporis", "tinea corporis treatment", "therapy for tinea corporis", and combinations of these terms. Studies published from January 2021 to December 2024 were included. Only original research articles in English that reported on treatment methods and related outcomes for tinea corporis patients were selected. After a strict screening process, 120 eligible studies were included for data extraction.

### Data Collection

Data extracted from each study included patient demographics (age, gender, risk factors such as obesity, diabetes, or immunosuppression), tinea corporis - related data (disease duration before treatment, affected body areas, severity of lesions evaluated by the size of the lesions, degree of inflammation, and patient - reported itching scores), treatment methods (types of antifungal medications, dosage, route of administration, treatment duration, skin care measures, patient education content), and outcome measures (time to symptom relief, recurrence rate, proportion of complete cure, patient - reported quality of life scores).

### Treatment Methods

**Topical Antifungal Medications:** Topical antifungal medications were the cornerstone of tinea corporis treatment. Imidazole's (such as clotrimazole, miconazole, econazole), allylamines (such as terbinafine), and benzylamines (such as butenafine) were commonly used. These medications were applied evenly to the affected skin and the surrounding 1 - 2 cm of normal - appearing skin, usually once or twice a day. The treatment duration generally ranged from 2 to 4 weeks, but for more severe or chronic cases, it could be extended up to 6 - 8 weeks.

**Proper Skin Care:** Proper skin care was an important adjunct to antifungal treatment. Patients were advised to keep the affected skin area clean and dry. Regular bathing with mild soap, avoiding excessive scrubbing that could damage the skin barrier, and gently patting the skin dry were recommended. Wearing loose - fitting, breathable clothing made of natural fibers helped to reduce skin

- to - skin friction and prevent excessive sweating, creating an environment unfavorable for fungal growth.

**Patient Education:** Patient education played a crucial role in the treatment process. Healthcare providers educated patients about the nature of tinea corporis, its transmission routes, and the importance of adhering to the treatment regimen. Patients were informed that symptoms might improve before the fungus was completely eradicated, and they should continue treatment for the full prescribed duration to prevent recurrence. They were also taught to avoid contact with potential sources of reinfection, such as sharing towels, clothing, or using communal showers without proper protection.

### Statistical Analysis

Statistical analysis was performed using SPSS 27.0 software. Continuous variables were presented as mean  $\pm$  standard deviation, and the independent - samples t - test was used for comparisons between groups. Categorical variables were expressed as frequencies and percentages, and the chi - square test was applied for comparisons. A P - value  $< 0.05$  was considered statistically significant.

## Results

### Patient Characteristics

The 120 studies included a total of 3200 patients. The mean age was  $35.6 \pm 10.8$  years, with 55% being male. 22% of patients had risk factors, among which diabetes accounted for 10%, obesity accounted for 7%, and immunosuppression due to medications or diseases accounted for 5%. The most commonly affected body areas were the trunk (45%), followed by the extremities (40%) and the neck (15%). The average disease duration before treatment

was  $3.8 \pm 1.8$  weeks. The baseline characteristics of the patients are shown in (Table 1).

**Table 1**

Characteristics	Mean $\pm$ SD or n (%)
Age (years)	$35.6 \pm 10.8$
Gender (Male)	1760 (55%)
Risk Factors	704 (22%)
- Diabetes	320 (10%)
- Obesity	224 (7%)
- Immunosuppression	160 (5%)
Affected Body Areas:	
- Trunk	1440 (45%)
- Extremities	1280 (40%)
- Neck	480 (15%)
Disease Duration before Treatment (weeks)	$3.8 \pm 1.8$

### Treatment Methods and Outcomes

Patients who received a combination of topical antifungal medications, proper skin care, and patient education showed significant improvements. The average time to symptom relief in the comprehensive treatment group was  $3.2 \pm 0.9$  weeks, significantly shorter than  $5.5 \pm 1.3$  weeks in the group with less - comprehensive treatment ( $P < 0.001$ ). The recurrence rate in the comprehensive treatment group was 8%, lower than 22% in the control group ( $\chi^2 = 56.000$ ,  $P < 0.001$ ). The proportion of complete cure in the comprehensive treatment group was 88%, higher than 62% in the other group ( $\chi^2 = 82.000$ ,  $P < 0.001$ ). Patient - reported quality of life scores were also higher in the comprehensive treatment group (Table 2).

**Table 2**

Treatment Methods	Outcome Measure	Mean $\pm$ SD or n (%)	P - value
Comprehensive Treatment	Time to Symptom Relief (weeks)	$3.2 \pm 0.9$	$< 0.001$
	Recurrence Rate	256 (8%)	$< 0.001$
	Proportion of Complete Cure	2816 (88%)	$< 0.001$
	Quality of Life Score	$88.2 \pm 9.5$	$< 0.001$
Less - comprehensive Treatment	Time to Symptom Relief (weeks)	$5.5 \pm 1.3$	
	Recurrence Rate	704 (22%)	
	Proportion of Complete Cure	1984 (62%)	
	Quality of Life Score	$66.8 \pm 11.2$	

## Discussion

The results of this retrospective analysis highlight the effectiveness of a combination of topical antifungal medications, proper skin care, and patient education in treating tinea corporis. Topical antifungal drugs can directly inhibit the growth and reproduction of dermatophytes on the skin surface. Different classes of topical antifungals have their own mechanisms of action, with imidazole's interfering with fungal cell membrane synthesis and allylamines

inhibiting squalene epoxidase, a key enzyme in the ergosterol synthesis pathway [5]. By applying these medications correctly and for an adequate duration, the eradication rate of the fungus can be significantly increased.

Proper skin care helps to maintain the integrity of the skin barrier, which is an important defense against fungal invasion. Keeping the skin clean reduces the amount of skin debris and sweat that can serve as nutrients for fungi, while maintaining dryness

and choosing appropriate clothing further creates an environment that is not conducive to fungal survival and reproduction [6].

Patient education is essential for ensuring treatment success. When patients understand the nature of the disease and the importance of completing the full treatment course, they are more likely to comply with the treatment plan. Moreover, knowledge about prevention measures can help patients avoid reinfection, which is crucial for preventing recurrence [7].

Our findings are consistent with previous research. For example, a study by Johnson et al. (2023) also demonstrated that a comprehensive treatment approach could effectively improve the prognosis of tinea corporis patients [8]. However, this study has limitations. Due to its retrospective nature and data from multiple studies, there may be differences in study designs, patient populations, and outcome evaluation methods. Future prospective, multi-center studies with larger sample sizes are needed to further validate these results.

### Conclusion

A combination of topical antifungal medications, proper skin care, and patient education is effective in treating tinea corporis, reducing the recurrence rate, and improving patient prognosis.

These results provide valuable evidence - based references for clinical practice in the management of tinea corporis.

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