SHIHHAH WAL AFIYAH JOURNAL
Volume 2 Issue 1 (March, 2026)
DOI:
e-ISSN: 3124-5862
p-ISSN: xxxx-xxxx

Case Report

Risk Factors and Family Medicine Management of Tinea Corporis in a Resident of a Densely Populated Settlement in Makassar, Indonesia: A Case Report

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Received 20 March 2026; Accepted 25 March 2026; Published 31 March 2026

Abstract:

Tinea corporis is a superficial dermatophyte infection that remains clinically important in tropical and densely populated settings where heat, humidity, poor ventilation, and close interpersonal contact facilitate transmission. This case report describes the clinical and family medicine assessment of a 29-year-old male mechanic living in a densely populated settlement in Makassar, Indonesia. The patient presented with pruritus on the back and right arm for one week, worsening during sweating. He had no fever, respiratory symptoms, gastrointestinal complaints, diabetes mellitus, or history of immunosuppressive disease. The patient lived with his wife and children in a lower-middle socioeconomic household with inadequate ventilation and suboptimal hygiene practices. Physical examination showed a mildly ill but alert patient, normal nutritional status, blood pressure of 129/79 mmHg, pulse rate of 102 beats/minute, respiratory rate of 21 breaths/minute, and temperature of 36.2°C. The diagnosis of tinea corporis was made clinically; no potassium hydroxide microscopy or fungal culture was documented. Management consisted of topical terbinafine cream for two weeks, avoidance of shared personal items, changing clothes after sweating, and education on personal hygiene and early health-service utilization. This case highlights the need to integrate dermatological care with environmental and behavioral risk modification in crowded communities.

Keywords: Tinea corporis; Dermatophytosis; Crowded settlement; Family medicine; Personal hygiene.

1. Introduction

Tinea corporis is a superficial fungal infection of glabrous skin caused by dermatophytes, most commonly species of Trichophyton, Microsporum, and Epidermophyton (1),(2). The disease is often recognized clinically by pruritic annular or oval plaques with peripheral scaling and relative central clearing; however, early, atypical, partially treated, or steroid-modified lesions may be difficult to distinguish from other inflammatory dermatoses (2),(3).

The global burden of fungal skin disease remains substantial, and dermatophytosis is reported more frequently in warm and humid environments where sweating and skin moisture support fungal growth (4),(5). Transmission is facilitated by close contact, shared towels or clothing, poor ventilation, and crowded living conditions, making densely populated households and communal environments important settings for recurrent infection (6),(7).

Although tinea corporis is rarely life-threatening, chronic or recurrent dermatophytosis may cause persistent itching, sleep disturbance, psychosocial discomfort, reduced productivity, secondary infection after scratching,

and repeated health-care visits (8),(9). In community and family medicine practice, management should therefore address not only antifungal therapy but also personal hygiene, household behavior, occupational exposure, and environmental risk factors (6),(10).

Diagnosis is usually clinical in typical localized cases, but potassium hydroxide microscopy or fungal culture is recommended when the diagnosis is uncertain, recurrent, extensive, immunocompromised, or unresponsive to initial therapy (11),(12). Appropriate treatment and counseling are increasingly important because inappropriate topical corticosteroid use, recalcitrant dermatophyte infection, and emerging antifungal resistance have been reported in several regions (13),(14). This case report aims to describe a patient with tinea corporis in a densely populated settlement and to highlight the importance of a holistic family medicine approach to risk-factor modification and prevention.

2. Case Presentation

Patient description / population description

A 29-year-old male resident of a densely populated area in Makassar, Indonesia, was assessed in April 2026. To maintain confidentiality, the exact household address and date of birth are not reported. The patient worked as a mechanic and lived with his wife and two children in a nuclear family. The source report described a lower-middle socioeconomic household, access to clean water from a municipal source, and inadequate home ventilation.

Case history

The patient complained of itching on the back and right arm for one week. The itching worsened when he sweated. He denied fever, cough, influenza-like symptoms, urinary complaints, bowel disturbance, previous major disease, diabetes mellitus, allergy, heart disease, surgery, alcohol consumption, illicit drug use, sexually transmitted infection, and immunosuppressive disease. He had previously taken an over-the-counter anti-itch medication without meaningful improvement and initially expected the complaint to resolve spontaneously. He rarely exercised regularly and had hygiene-related behavioral risks, including inadequate attention to cleanliness during daily activities.

Results of physical examination

The general condition was mildly ill, nutritional status was normal, and consciousness was compos mentis with Glasgow Coma Scale 15. Vital signs were blood pressure 129/79 mmHg, pulse rate 102 beats/minute, respiratory rate 21 breaths/minute, and temperature 36.2°C. Body weight was 50 kg and height was 155 cm. The systemic examination documented no conjunctival anemia, no scleral icterus, normal thoracic examination, regular heart sounds without murmur or gallop, warm extremities, and capillary refill time less than two seconds. The source report did not provide detailed lesion measurements, lesion photographs, or dermoscopic descriptions.

Pathological test results and other investigations

No potassium hydroxide preparation, fungal culture, dermoscopy, or skin scraping result was documented. The clinical diagnosis recorded in the source report was tinea corporis. In an international case-report format, this is best described as clinically diagnosed tinea corporis, with a recommendation that mycological confirmation be performed if lesions are atypical, extensive, recurrent, or unresponsive to initial therapy (2),(11),(12).

Treatment plan

The pharmacological management consisted of topical terbinafine cream applied thinly to the affected areas for two weeks. Topical antifungal therapy is commonly used for localized tinea corporis, and terbinafine-containing regimens are supported as practical options in uncomplicated dermatophyte infections when applied adequately and accompanied by patient counseling (15),(16),(17). Non-pharmacological management included using personal bathing equipment, maintaining clothing and body hygiene, changing clothes after sweating, keeping the skin dry, avoiding shared towels or clothing, and recognizing warning signs such as severe itching or progressive spread of lesions (6),(10).

Expected outcomes

Expected outcomes included reduction of pruritus, clinical resolution of lesions, prevention of spread to household contacts, improved knowledge of transmission and prevention, better personal hygiene practices, and earlier utilization of primary care services if symptoms recur or worsen (8).

Actual outcomes

The immediate documented outcome was acceptance of treatment and education. Objective follow-up documenting lesion clearance, mycological cure, recurrence, or household transmission was not available in the source report. The family assessment showed an APGAR score of 7, indicating a family function that required strengthening, particularly in health behavior support. The SCREEM assessment identified social, cultural, and educational aspects as areas needing improvement.

Table 1. Clinical summary of the patient with tinea corporis

Domain	Finding	Clinical implication
Patient profile	Male, 29 years old, mechanic, resident of a densely populated settlement in Makassar.	Occupational sweating and crowded living conditions may contribute to dermatophyte transmission.
Main complaint	Pruritus on the back and right arm for one week, worsened by sweating.	Localized pruritic skin lesions are compatible with superficial dermatophyte infection.
Medical history	No documented diabetes mellitus, immunosuppressive disease, or systemic symptoms.	Clinical presentation was consistent with uncomplicated localized disease.
Diagnosis	Clinically diagnosed tinea corporis; no KOH microscopy or culture documented.	Mycological confirmation should be considered for atypical, extensive, recurrent, or treatment-resistant cases.
Treatment	Topical terbinafine cream for two weeks plus hygiene and prevention counseling.	Localized tinea corporis can often be managed with topical antifungal therapy and risk-factor modification.

Table 2. Family and environmental assessment relevant to disease prevention

Assessment component	Finding from the source report	Preventive focus
Family structure	Nuclear family consisting of the patient, wife, and two children.	Counsel all household members to avoid sharing towels or clothing and to monitor for symptoms.
Home environment	Densely populated settlement with inadequate ventilation; water source available from a municipal supply.	Improve ventilation, reduce dampness, and maintain dry clothing and bedding.
Health behavior	Limited understanding of tinea corporis transmission, prevention, and treatment; delayed use of primary care.	Strengthen education on hygiene, adherence, and early care-seeking.
APGAR	Total score 7, categorized as family function requiring support.	Use family involvement to reinforce adherence and preventive practices.
SCREEM	Social, cultural, and educational domains were identified as insufficient.	Target household behavior, health literacy, and daily preventive routines.

3. Discussion

This case illustrates a common but important presentation of dermatophytosis in a community setting. The patient had localized pruritus involving the back and right arm, with symptoms worsened by sweating and no systemic manifestations. Such a presentation is consistent with uncomplicated tinea corporis, particularly in tropical environments where warmth and humidity support fungal growth (5),(18).

The case is clinically relevant because the patient lived in a densely populated settlement and worked as a mechanic, a setting that may increase sweating, occlusion, and repeated exposure to contaminated surfaces or clothing. Household crowding, inadequate ventilation, and limited health literacy can facilitate transmission and recurrence, especially when towels, clothing, or bathing equipment are shared (7),(19).

A limitation of the source case is the absence of detailed lesion morphology, clinical photographs, potassium hydroxide microscopy, and fungal culture. In typical localized disease, clinical diagnosis may be sufficient for initial management, but potassium hydroxide examination is a simple and useful test to demonstrate septate hyphae and increase diagnostic certainty. Culture or molecular testing can be considered in recurrent, extensive, atypical, or treatment-resistant cases (13).

Topical terbinafine was a reasonable first-line choice for this localized case because allylamines have strong activity against dermatophytes and are commonly used for tinea corporis (16),. Therapy should generally be applied beyond the visible edge of the lesion and continued for an adequate duration. Oral therapy is usually reserved for extensive involvement, immunocompromised patients, hair-bearing follicular involvement, failed topical therapy, or repeated recurrence (20),(21).

The family medicine perspective adds value because medication alone may not prevent recurrence when environmental and behavioral determinants persist. The management plan appropriately included personal bathing equipment, clothing hygiene, changing clothes after sweating, and patient education. These measures are essential in crowded households, where asymptomatic carriage, shared fabrics, damp bedding, contact with infected humans or animals, and delayed treatment of contacts may contribute to ongoing transmission (22).

The APGAR and SCREEM assessments showed that family support, health behavior, culture, and education required improvement. These findings support a holistic intervention focused on health literacy, adherence support, early care-seeking, and household-based prevention. In low-resource community settings, counseling should be practical: keep skin dry, avoid sharing towels and clothing, wash and dry fabrics thoroughly, avoid unsupervised steroid-containing creams, and seek medical care if lesions spread or fail to improve (19).

This report also highlights the need to improve documentation quality in student and community case reports. Future reports should include standardized dermatological descriptions, lesion location and size, photographs with consent, potassium hydroxide microscopy when feasible, treatment adherence, follow-up response, and screening of household contacts. Such documentation would make the case more useful for clinical learning, public health planning, and publication in an international journal (12).

4. Conclusion

A 29-year-old male mechanic living in a densely populated settlement in Makassar was clinically diagnosed with localized tinea corporis after presenting with one week of pruritus on the back and right arm that worsened with sweating. The case emphasizes that tinea corporis should be managed through both antifungal therapy and modification of behavioral and environmental risk factors. Topical terbinafine, personal hygiene education, avoidance of shared towels and clothing, changing clothes after sweating, and improved household awareness are central to preventing persistence and recurrence. Future clinical documentation should include lesion morphology, mycological confirmation when indicated, and follow-up outcomes to strengthen the case-report quality.

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