ANTIFUNGAL RESISTANCE IN DERMATOMYCOSES: CURRENT TREATMENT CHALLENGES

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Introduction.

Dermatomycoses affect an estimated 20–25% of the global population. Over the past five years, this burden has been compounded by the rapid emergence of *Trichophyton indotineae*, a terbinafine-resistant dermatophyte first identified on the Indian subcontinent and now documented across more than 40 countries (da Silva et al., 2026). Reported resistance rates for this pathogen vary considerably across the literature, ranging from 5% to over 77%, a discrepancy risking misinterpretation as inconsistent evidence rather than a predictable consequence of study design.

Aim. To reconcile apparently divergent resistance-rate data from six recent international studies on antifungal resistance in dermatomycoses, and to evaluate what this synthesis reveals about current surveillance gaps, with particular attention to Central Asia.

Materials and Methods. A comparative literature synthesis was conducted using six peer-reviewed sources: a national genomic surveillance study from Belgium (Sacheli et al., 2025); a systematic global susceptibility dataset comprising 981 *T. indotineae* isolates from 14 countries (Song et al., 2026); a clinicomycological study from North India (Lohariwala et al., 2025); a nationwide multicentre survey from Iran (Takesh et al., 2026); a North American reference-laboratory analysis (Cañete-Gibas et al., 2023); and a 2026 global epidemiological review synthesizing over 60 additional primary studies (da Silva et al., 2026).

Results and Discussion. Terbinafine resistance rates differed markedly by sampling strategy, not biological variation. Labs testing all dermatophyte species reported low overall resistance (5.1% in Belgium, Sacheli et al., 2025; 18.6% in North America, Cañete-Gibas et al., 2023), diluting resistant isolates within a mostly susceptible population. Studies restricted to *T. indotineae* isolates alone reported far higher rates (87.5% in Belgium's subset; 77.6% pooled globally, Song et al., 2026), with comparable findings in India (Lohariwala et al., 2025) and Iran (Takesh et al., 2026), where this species already dominates locally. Compared like-for-like, all six sources describe one pattern: *T. indotineae* is highly terbinafine-resistant wherever specifically tested, and national rates chiefly reflect its share of the total disease burden, not differences in intrinsic resistance (da Silva et al., 2026). Regionally, a 2025 study from neighbouring Kazakhstan identified *Trichophyton* species in 26.3% of 313 cases without confirming *T. indotineae* (da Silva et al., 2026), while case reports from Russia (2024) and its Ural region (2026) document the pathogen's arrival in the broader post-Soviet region. No peer-reviewed data addressing *T. indotineae* have yet been published from Uzbekistan or Central Asia.

Conclusions. The variation in published resistance rates for *T. indotineae* reflects differences in study sampling rather than genuine epidemiological disagreement. Its confirmed presence in neighbouring countries, combined with the absence of regional Uzbek data, constitutes a clear and actionable surveillance gap. Targeted molecular screening of recalcitrant dermatophytosis cases in Uzbekistan is warranted.