

FREQUENCY OF DERMATOPHYTOSIS AND IDENTIFICATION OF ETIOLOGIC AGENTS USING MYCOLOGICAL AND MOLECULAR METHODS AMONG SUSPECTED HUMANS IN KANO, NORTHWESTERN NIGERIA (2019).

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Abstract

Introduction: Dermatophytes cause a spectrum of skin, hair, and nail infection known as dermatophytosis, which is a disease of veterinary and public health concern. Human dermatophytosis is acquiring greater recognition due to the dynamic epidemiology and unstable taxonomy of dermatophytes. Successful treatment of the disease depends largely on accurate dermatophyte species identification which remains challenging using conventional methods. Recently, ribosomal DNA-based sequencing has been recognized as an excellent tool for accurate species identification. This study determined the frequency, clinical patterns, and predominant etiologic agents of human dermatophytosis in Kano, Nigeria using mycological methods and PCR sequencing of ITS1-2 regions of the fungal ribosomal DNA. **Materials and Methods:** The study was conducted between February 2019 and April 2020 involving 133 patients with clinical suspicion of dermatophytosis. Clinical specimens from suspected patients were collected at Murtala Muhammed Specialists' Hospital, a tertiary referral hospital in Kano State, Nigeria and processed at medical mycology laboratories in the Department of Medical Mycology and Parasitology, Tehran University of Medical Sciences, Tehran. All specimens were subjected to direct examination and culture from which dermatophytes were isolated. Dermatophyte species were identified using their phenotypic characteristics and subsequent PCR-sequencing of ITS1-2 regions of the rDNA. **Results:** Our investigations found that the majority of the patients were males (76.70%), aged less than 10 years (88.72%), and primary school-leavers (57.90%). The overall dermatophytosis prevalence was 6.26%, with a predominance of capitis (84.21%), followed by tinea corporis (12.10%), and tinea pedis (7.01%). Mycologically confirmed dermatophytosis prevalence was 28.03%, among which *Microsporum audouinii* (43.2%) predominates followed by *Trichophyton soudanense* (25%), and *T. violaceum* (18.2%). Concerning tinea capitis, the most common clinical type was black dot (46.4%), followed by grey patch (39.3%), and kerion (1.8%) –No favus. Similarly, the dermatophyte isolates from tinea capitis belong to *M. audouinii* (45.7%), *T. soudanense* (28.6%), *T. violaceum* (22.9%), and *T. tonsurans* (2.9%). **Conclusion:** Dermatophytosis is common in Nigeria and is transmitted mainly by anthropophilic species within the *Microsporum* and *Trichophyton* genera. Tinea capitis is the most prominent clinical presentation, particularly among school-age children in Nigeria. Despite variable reports, *M. audouinii* (43.2%) and *T. soudanense* (25%) remain the predominant cause of dermatophytosis in Northwestern Nigeria.