

## Superficial Fungi Skin Infections: The Bane of Dermatoses in Nigeria

Olumayowa A Oninla\*

Department of Dermatology and Venereology, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria

\*Corresponding author: Olumayowa A. Oninla, P.O.Box 699, Enuwa, Ile-Ife, Osun State, Nigeria, Tel: +2348058025220; E-mail: [mayooni@yahoo.com](mailto:mayooni@yahoo.com)

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### Abstract

Skin conditions affecting the Nigeria populace are mostly infective skin diseases. Various studies across the population done in schools, community or as hospital-based prevalent studies showed that superficial fungi infections made up majority of these infections. These infections constitute the highest number of dermatoses or skin infections treated by dermatologists all over the country. The prevalence of superficial fungi infections has also been observed to remain the same, and in some places, it has increased over decades.

Superficial fungi infections still need to be addressed as a public health problem among the growing populace of Nigeria. The favorable environment of hot and humid climate, poverty, poor sanitary conditions and overcrowding are well known factors that favor these fungi growth. These conditions well abound in Nigeria.

**Keywords:** Fungi infections; Dermatoses; Nigeria

### Review

Fungi are a group of non-photosynthetic micro-organisms which live as saprophytes in the soil and on dead organic matter or as parasites of plants and animals including man [1]. They can be found in the soil, decaying plants, air and water, and as part of the microbial flora of within the body or on the skin of man. There are many species of fungi that causes skin infections in man. These are mainly Dermatophytes (*Trichophyton specie*, *Epidermophyton specie* and *Microsporum specie*), *Malassezia furfur* and *Candida specie*. Less commonly *Aspergillus specie*, *Trichothecium roseum*, *Cladosporium specie*, *Fusarium specie*, *Curvularia specie*, *Penicillium specie*, *Epidermatophyton specie*, *Drechslera specie*. and *Alternaria specie* also cause skin, hair or nail infections [2].

Superficial fungi skin infections are fungal diseases that affect the skin, mucous membrane, nails, and hair. These infections have been reported in various studies in developing countries as the most common dermatoses [3-6] and where they are not; they are usually the second most common skin problems [7] They are also responsible for most of the skin infections among school children [8] In a study of schoolchildren by Amoran et al, 83.7% of all skin disorders seen in 480 pupils were infective dermatoses with superficial fungal infections (dermatophytoses and pityriasis versicolor) constituting 74.1% [9].

Ogunbiyi et al reported skin diseases in 35% of school children with 20.6% having fungi infections (dermatophytes-15.9%; pityriasis versicolor-4.7%) that are mostly tinea capitis (14.5%) [10]. Oduko et al. in a prevalence survey of 5001 Nigerian children aged 0-12 years at the Urban Comprehensive Health Centre, Ile-Ife, Nigeria revealed that 492 children (9.8%) had dermatological conditions with dermatophytic infections in 17.1% [11].

Fungi skin infection constitutes the majority of infective skin conditions seen by physicians in primary, secondary, and tertiary health care centers, in Nigeria [12-15]. Fungi infections make up the majority of infective dermatoses as well as the most common

dermatoses at various dermatology centers in Nigeria. Fungi infections most often reported are the superficial fungi infections which are dermatophytes, pityriasis versicolor and candidiasis. Of these, dermatophytes are usually the most prevalent.

Fungi infections were the most frequently occurring infection in a dermatology clinic at Ibadan by Ogunbiyi et al, in south-west Nigeria affecting 10.9% (dermatophytes-4.5%, pityriasis versicolor-4.5%, and candidiasis-1.9%) of the patients presenting for care during the study period [16]. A similar study at the same clinic reported 24 years earlier showed that these infections made up 8.9% (dermatophytes-6.6%, pityriasis versicolor-1.1%, and candidiasis-1.2%) of the skin conditions [17].

A study by Nnoruka, a dermatologist in southern Nigeria demonstrated the preponderance of these infections. They made up 10.1% of the skin conditions seen in 2871 patients reporting for dermatological care with dermatophytes in 8.3% (pityriasis versicolor-1.7%, and candidiasis-0.1%) [18]. Another study on cutaneous infections in a dermatology clinic by Olasode et al reported these infections as constituting 67% of all infectious dermatoses seen [19]. Other dermatologists in northern Nigeria reported a higher prevalence. The climate in the northern part is drier and hotter causing increased sweating. The southern part, however, has a hot humid climate with the high humidity predisposing to fungi infections. Yahya found fungi infections in 11.2% of skin diseases in 5982 patients studied, and these predominantly involved dermatophytes (dermatophytes-6.0%, pityriasis versicolor-2.4%, and candidiasis-2.8%) [20]. An earlier study done 30 years before, reported that dermatophytes were found in 13.8%, and pityriasis versicolor in 2.5% of 8013 patients [21]. This implies that fungi infections are still highly prevalent in this area. Onayemi et al also found the infections in 21% of 900 patients (dermatophytes-10.4%, pityriasis versicolor-6.7%, and candidiasis-4.9%) in another northern state in Nigeria [22].

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