

## Factors predisposing school staff to fungal infections

**Elżbieta Ejdys, Maria Dynowska, Ewa Sucharzewska, Anna Biedunkiewicz,  
Dariusz Kubiak**

Department of Mycology, Faculty of Biology and Biotechnology, University of Warmia and Mazury in Olsztyn,  
Oczapowskiego 1A, 10-917 Olsztyn, Poland

Corresponding Author: Elżbieta Ejdys; e-mail: elzbieta.ejdys@uwm.edu.pl

This study was aimed at analyzing the factors that affect the occurrence of fungal infections of selected organ ontocenoses in school staff. The analyzed group of 100 persons included teachers, administrative workers and other school staff members (87 women, 13 men). Swabs were collected from their oral cavity, pharynx and nasal cavity for analysis. In addition, each of the analyzed persons completed a questionnaire containing questions related to age, body mass index, health condition (current and past diseases, resistance to stress), antibiotics taken (duration of drug administration and treatment outcomes), lifestyle (diet composition, sleep length, forms of physical activity, stimulants), and contact with animals.

Fungi were detected in 30% of subjects. They were isolated most frequently from the oral cavity (71%), but threefold less frequently from the pharynx (24%). In total, 45 isolates of fungi were obtained from 13 species, belonging to eight genera: *Debaryomyces*, *Dekkera*, *Kluyveromyces*, *Lachancea*, *Metschnikowia*, *Saccharomycopsis*, *Schwaniomyces*, and *Wickerhamomyces*. In seven cases, two-species isolates were obtained from one ontocenosis. In one person, the fungi were isolated from both throat and nose ontocenoses. The most frequently isolated species was *L. thermotolerans* (19 isolates), while *W. anomalus* was slightly less frequently isolated (10 cases). The other species occurred in occasional cases.

A risk group was formed based on the factors likely to predispose the subjects to fungal infections. The most susceptible to fungal infections were those under 45 years of age with a correct or slightly elevated BMI value, and persons working with younger pupils who had undergone treatment with bactericidal antibiotics with a wide spectrum of effects at least six months earlier. No significant correlations were noted between diet type and fungal occurrence in particular organ ontocenoses. Fungi were isolated significantly less frequently or never in persons with a slightly lower BMI, or those often using stimulants (nicotine, caffeine), not practicing sports or who were in everyday contact with animals.