

The Effects of Local Factors on the Concentrations and Flora of Viable Fungi in School Buildings

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Abstract : A wide range of health effects among occupants are associated with the exposure to bioaerosols from fungal sources. Although the accurate role of these aerosols in causing the symptoms and diseases is poorly understood, the important effect of bioaerosol exposure on human health is well recognized. Thus, there is a need to determine all of the contributing factors related to the concentration of fungi in indoor air. In this study, we reviewed and summarized the different factors affecting the concentrations of viable fungi in school buildings. The literature research was conducted using Pubmed and Google Scholar. In addition, we searched the lists of references of selected articles. According to the literature, the main factors influencing the concentration of viable fungi in the school buildings are moisture damage in building structures, the season (temperature and humidity conditions), the type and rate of ventilation, the number and activities of occupants and diurnal variations. This study offers valuable information that can be used in the interpretation of the fungal analysis and to decrease microbial exposure by reducing known sources and/or contributing factors. However, more studies of different local factors contributing to the human microbial exposure in school buildings—as well as other type of buildings and different indoor environments—are needed.

Keywords : fungi, concentration, indoor, school, contributing factor

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