

## Indoor air studies of fungi contamination in two kindergartens in Kavala, Greece

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### ABSTRACT

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**Introduction:** Fungi and moulds are biological hazards that are ubiquitous both in the communal and occupational environments. The aim of the study was to assess the presence of airborne fungi in two kindergartens in Kavala, Greece.

**Materials and methods:** Materials for the tests were: the air samples (in front of the buildings and the selected rooms) of the two kindergartens. The first Kavala kindergarten was located atop a hill and the second in the city center. The air pollution was determined using SAS SUPER 100.

**Results:** The mean number of fungal colonies isolated from air of the kindergarten rooms in the city center was  $478.3 \pm 148.4$  CFU/m<sup>3</sup>. The mean number of fungal colonies isolated from air of the kindergarten on the hill was  $343.6 \pm 188.8$  CFU/m<sup>3</sup>.

*Aspergillus niger* was most frequently isolated in air samples from the kindergarten rooms in the city center, while *Penicillium species* predominated the kindergarten rooms on the hill. CFU values in the air samples outside the kindergartens were higher in the center than on the hill of Kavala.

CFU values of the examined air samples are varied. In the kindergarten rooms in the center of Kavala the most frequently isolated species was *Aspergillus niger*, and in the kindergarten on the hill it was *Penicillium species*.

**Conclusions:** The present study demonstrated considerable numbers of fungi in the air in two kindergartens in Kavala, Greece.

**Key words:** Indoor air fungi, kindergartens, SAS Super 100

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