

## The presence of fungi in the interiors of libraries and the risk of exposure to mold of the *Aspergillus* genus – a preliminary study

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Librarians are at greater risk of exposure to molds present in the environment due to long periods of time spent indoors as part of their profession. The aim of the study was to evaluate the prevalence of fungi in the environment of library interiors various universities in Kraków.

The interiors of three libraries of two universities in Kraków: Jagiellonian University Medical College (Institutes: Nursing and Midwifery - IPiP and Dentistry) and the Academy of Physical Education (AWF) were examined during preliminary studies in 2015. A one-time air sample was taken from certain parts of the library (rental rooms, reading rooms, bookshelves), as well as imprints from the shelves, the books placed on them and the walls. In total, 18 air samples and 28 imprints were obtained. Air samples were collected using a MAS 100 camera collision (Merck), and surface imprints taken by Count-Tact (BioMerieux). The obtained samples were subjected to mycological diagnosis according to microbiological procedures.

The number of fungal colony-forming units (CFU) detected in 18 air samples ranged from 5 CFU to 2095 CFU in 1 m<sup>3</sup> of air. The lowest CFU value was found in the air of the IPiP library (20 to 50 CFU in 1 m<sup>3</sup>, mean value 34 CFU, median value 35 CFU), while the greatest number was found in the AWF library rooms (5 to 2095 CFU in 1 m<sup>3</sup>, mean value 416 CFU, median value 180 CFU). The number of colony-forming units grown from the 28 imprints ranged from 0.04 CFU to 1.09 CFU cm<sup>-2</sup>. The highest scores were obtained from the shelves and walls of the IPiP library rental rooms and the least on the shelves in the reading rooms of the AWF library. The dominant fungi detected in the samples and imprints were molds of the genera *Penicillium* sp. and *Aspergillus* sp. By far the most common fungus of the genus *Aspergillus* was detected in samples taken from the AWF library, and the dominant species was *Aspergillus niger*.

The average number of fungi detected in the public libraries tend to be low and their presence should have no impact on the health of people working there. However, due to the proven cytotoxicity of fungal species *A. niger* their presence could pose a potential threat to the health of workers.