

RESUMO

Characterization of the fungal community in indoor air from hospital emergency departments waiting rooms

A high number of people are admitted at emergency departments of hospitals on a daily basis. At those environments patients can, sometimes, get healthcare-associated infections (HAIs). Since waiting rooms are also shared by patients' families or accompanying persons and health care professionals, all these individuals are exposed being at risk of getting this type of infection. Hence, it can constitute a public health problem and the study of such environments, particularly on the identification of microorganisms, becomes crucial. Such studies will allow a more effective control of microbiological contamination and, consequently, will increase the hospital's Indoor Air Quality (IAQ). The aim of the present study was to characterize the fungal community in two waiting rooms from the emergency department of a district hospital located in north Portugal. The evaluated rooms comprise the waiting room for patients (after initial health screening) and the waiting room for companions. The influence of cleaning procedures on the air quality of the rooms was also evaluated by sampling before and after the regular cleaning of the rooms. The fungi were collected by impactation method with volume samples of 60 litres, directly to petri dishes with Sabouraud Dextrose Agar, using the 90 ActiveCount LightHouse Air Sampler. Additionally, temperature and humidity were measured using the Q – Track™ Plus IAQ Monitor, model 8554 (TSI), in order to control the physical parameters between rooms. At the laboratory, the counting and the identification of the Colony Forming Units (CFUs) of fungi was carried out. The results showed that there was an indoor contamination by fungi at the surveyed sites and that it was higher in the waiting room

Raquel Amaro^{1•}

Marta Vasconcelos²

Célia Gomes²

Ana Ferreira²

¹Department of Biology, University of Aveiro.

²College of Health Technology of Coimbra.

• raquel.amaro@ua.pt

for companions. The identified genera of fungi were *Absidia*, *Cladosporium*, *Geotrichum*, *Rhizopus*, *Aspergillus*, *Fusarium*, and even yeasts. Hygiene plays an important role in the amount of fungi's CFUs. Surprisingly, the results showed that the number of CFUs of fungi increased after cleaning procedures in the two rooms. It is essential change and improve the methodology used to clean the sites and to provide specialized training to the cleaning staff.



PALAVRAS-CHAVE: hospital environment, IAQ, exposure to biological agents, HAI, fungi