TITLE: AIR MICOBIOTA OF AIR CONDITIONED CLASSROOMS IN TWO ELEMENTARY SCHOOLS IN THE MUNICIPALITY OF FORTALEZA, CEARÁ

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ABSTRACT:
The school environment is a place where large numbers of people can be exposed daily to poor air quality, capable of causing harm to health, especially respiratory problems. Within this context, the objective was to analyze the air quality of air conditioned classrooms of municipal schools in Fortaleza, Ceará. We performed monitoring from January to December 2018 in two air conditioned classrooms (A and B) of two public elementary schools with an average of more than 250 students enrolled, attending morning and afternoon sessions (split schedule). For this purpose, the passive sedimentation method was used in Petri dishes containing potato dextrose agar (Kasvi®) culture medium. The plates were exposed from 8 a.m. to 4 p.m. on a random monthly day, placed at a height close to the human breathing area. After the exposure period, the plates were taken to the Microbiology Laboratory of Ceará State University, incubated at 25-28 °C for 7 days. Then, the samples were identified based on the joint analysis of macro and micromorphological characteristics. The monthly means of classrooms A and B were 79 CFU.m^{-3} and 136 CFU.m$^{-3,}$ respectively. In classroom A, the month with the highest quantity was March (172 UFC.m^{-3}) and the lowest month was July (37 UFC.m^{-3}). In room B, the month with the highest quantity was April (406 CFU.m^{-3}) and the month with the lowest was July (51 CFU.m^{-3}). In 2018, the average precipitation was 20 mm in the dry season and 113 mm in the rainy season. A total of 21 fungal genera were identified, of which 19 were in classroom A and 17 in classroom B, and the most common genera were *Aspergillus* (83% in classroom A and 66% in B), *Cladosporium* (58% in B and 33% in A), *Exophiala* (50% in A and 33% in B), *Acremonium* (33% in A and 25% in B), *Mucor* (16% in both) and *Curvularia* (25% in A and 8 % in B). A total 15 genera were found in both rooms, 4 genera only in room A (*Cunninghamella*, *Nigrospora*, *Trichosporon* and *Scedosporium*) and 2 in classroom B (*Lecythophora* and *Paecilomyces*). During the period studied, the months with the greatest frequency if fungi were in the rainy season, so the outside climate conditions could have influenced the quantity of fungi in the schoolrooms, despite the air conditioning. In any event, the fugal diversity found has pathogenic potential, depending on the host's immune status.
Keywords: indoor air quality, school environment, monitoring

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