TITLE: ENVIRONMENTAL FACTORS AND AIR QUALITY IN BUSES IN THE CITY OF FORTALEZA, CEARÁ

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ABSTRACT:
There are very few scientific studies of air quality inside buses, especially the impact of microbial diversity on the health of users and drivers. In the context, this study compared the aerial mycobiota inside two buses considering the presence of environmental factors along the route (near effluent channels and irregular waste disposal sites). Monthly collections were carried out between September 2018 and January 2019 (total 10 samples) in buses without air conditioning of two lines in the city of Fortaleza, Ceará, named line A (presence of effluent channels and irregular waste disposal sites population along the route) and line B (without passing through potentially polluting areas). Samples were collected by passive sedimentation in Petri dishes with potato dextrose agar culture medium (Kasvi®). Each plate was exposed on the dashboard of the bus according to the route time of each bus, being 62-95 min for line A and 65-90 min for line B. The Petri dishes were then sent to the Microbiology Laboratory of Ceará State University and incubated at 25-28 ° C for 7 days. Subsequently, the samples were identified based on macro and micromorphological characteristics. Line A presented a monthly average of 1,340 CFU.m^{-3}, while the result for line B was 594 CFU.m^{-3}. With respect to fungal diversity, 7 genera were identified for line A and 8 for line B. *Aspergillus niger* was present in 100% of the collections of both lines. For line A, the most frequent genera were *Penicillium*, *Aspergillus* and *Cladosporium*, and for line B, *Cladosporium*, *Aspergillus and Acremonium*. There was variation in fungal quantity between the two lines, which was not observed in relation to diversity. The main difference between the lines is external factors (presence along the route of effluent channels and irregular trash disposal sites), since the route duration and average number of passengers (37 passengers / route) were the same, as were the climate conditions (temperature of 31 °C and 68% relative humidity). In view of these findings, it is necessary more to conduct in-depth studies that correlate the fungal quantity with other variables, since this was greater in the buses on the route with the presence of pollutants.
Keywords: air quality, public transportation; anemophilous fungi; *Aspergillus* spp.

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