

TITLE: FUNGAL BIODIVERSITY ISOLATED FROM DUST MICRO HABITAT OF THE LIBRARY OF THE CITIES CUIABÁ AND VÁRZEA GRANDE AND IMPACT ON OCCUPATIONAL HEALTH

AUTHORS: LEITE-JR, DP^{1,2}, BANDEIRA JD², BRAGANÇA SP², VASCONCELOS KR², SANTANA MBA¹, OLIVEIRA MM¹, DANTAS ESO².

INTITUTION: ¹Universidade Federal de Mato Grosso – Laboratório de Investigação, Faculdade de Medicina, Curso de Pós-Graduação em Ciências da Saúde, 78060-900, Cuiabá, MT, Brasil. ²Centro Universitário de Várzea Grande (UNIVAG) –Várzea Grande, MT, Brasil.

ABSTRACT:

Internal environments favor health risks including allergies, infections and toxicity. The combination of several factors of physical nature (temperature, light, humidity), chemical (respiration, acidity, cellulose oxidation) and biological factors (mites, fungi, bacteria and viruses) influence the capacity causing damage to bibliographic collections. The objective of this work was to investigate the presence of fungi in indoor environments of seven public and private libraries in Cuiabá and Várzea Grande-MT and their impact on occupational health. Internal environmental samples were collected in two humid climatic periods from January to May/2015 and from June to October/2015. From 332 dust samples collected by three techniques: air-impactor/sampler (2,229/12,3%), plate exposure (6,578/25,1%) and sterile swab (16,387/62,6%) were isolated 26,194 CFUs And identified 183 fungal species. Of these, 157 were mycelial and 26 yeast, accounting for 53 rates, being (43/81.1%) mycelial and (10/18.9%) yeast genera. The genus *Aspergillus* (10,628/40,6%) was one of the main fungi present in indoor air. *Aspergillus niger* (3,219/12.3%) was identified as being the most prevalent species in literary environments, followed by *Cryptococcus* spp. (1,865/7.1%) and *Cladosporium cladosporioides* (1,825/7.0%). As for the seasonal distribution, fungal propagules were more frequently isolated in the dry / dry season (14,132/54%) compared to the wet / rainy period (12,062/46%). Among the two climatic periods, the following genera were predominant: *Aspergillus* spp, *Rhodotorula* spp, *Cryptococcus* spp, *Cryptococcus* spp, *Fusarium* spp, *Penicillium* spp, *Paecilomyces* spp, *Curvularia* spp, *Alternaria* spp, *Trichoderma* spp, *Rhizopus* spp, *Aureobasidium* spp, *Chrysonilia sitophila*, *Mucor* spp, *Candida* spp. The temperature was considered an aggravating factor in the fungal proliferation in these establishments. The evaluated environments presented adequate substrates in the form of books and documents associated with the dust and humidity of the air conditioners. This fact assumes relevance because these environments shelter employees constantly exposed to identify microorganisms. These findings bring to light the issue of minimizing the risk of exposure to microfocus of pathogenic and toxigenic fungal agents in bibliographic collections, performing their role in the microbiota of these; Such as diners, decomposers and pathogens.

Keywords: libraries, dust, fungal aerobiology, occupational health.