BIOBURDEN CHARACTERIZATION BY ACTIVE AND PASSIVE METHODS IN PORTUGUESE DWELLINGS

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The living environment can be a source for bioburden and azole-resistant mycobiota that depending of the occupant's health status can be a serious public health problem. The objective of this study was to assess bioburden in Portuguese dwellings located in Lisbon Region through active methods (air sampling) coupled with passive methods (Electrostatic dust cloth - EDC).

Nine Portuguese dwellings (bed and living room) were assessed and air samples of 250 liters were impacted on 2% malt extract agar (MEA) with 0.05 g/L chloramphenicol media and tryptic soy agar (TSA). EDC were placed at a minimum 0.93 m above floor level, and dust was allowed to settle for 30 days. Each EDC wash suspension was inoculated on more 2 different culture media; dichloran glycerol (DG18) agar-based media and violet red bile agar (VRBA). Suspensions were also inoculated onto saboraud screening media supplemented with 4 mg/L itraconazole (ITC), 1 mg/L voriconazole (VCZ), and 0.5 mg/L posaconazole (PCZ) for the azole resistant mycobiota screening. Molecular detection of the toxigenic *Aspergillus* sections will be performed shortly.

The assessment of indoor air microbiological parameters was performed in the bedroom at night and in the morning. The obtained results indicated an increase of bacterial load during the night ranging from an average value of 571 ± 181 CFU/m^3 at night up 1458 ± 1732 CFU/m^3 at morning. Fungal load ranged from 4 to 1009 CFU/m^3 at night and from 12 to 888 CFU/m^3 in the morning. Total bacterial load was present in 13 out of the 14 EDC samples, ranging from 1 to 220 CFU/m^2, whereas Gram-negative bacteria load was observed in 8 out of 14 sampling sites, ranging from 1 to 98 CFU/m^2. Fungal load was found in 9 out of 14 samples ranging from 50 to 945 CFU/m^2. The identification of bacterial and fungal isolates is ongoing. Fungal growth in azole-supplemented media was observed in 8 out of the 14 sampling sites from 5 out of 9 assessed dwellings, ranging from 1 to 24881 CFU/m^2. No *Aspergillus* sp. growth was observed in azole-supplemented media.

Results from this study will allow identifying how the active (air) and passive (EDC) sampling methods can be used in parallel. Resistant mycobiota data claim attention for the need to assess dwellings routinely, being critical at immunocompromised patients' homes, such as cystic fibrosis, cancer, transplant and hemodialysis patients.

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