

MICROBIOTA ASSESSMENT IN OPTICAL SHOPS: AN IGNORED CONCERN TO PUBLIC HEALTH

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The presence of microorganisms in ophthalmic instruments and surfaces can lead to the exposure of patients to several infections. However, there is no information regarding fungal and bacteria contamination in optical shops. This study aims to characterize fungi and bacteria contamination in air and surfaces from 10 optical shops covering also ophthalmic instruments.

Air samples were collected through an impaction method onto malt extract agar (MEA) supplemented with chloramphenicol (0.05%) used for fungi and Tryptic Soy Agar (TSA) supplemented with nystatin (0.2%) used for bacteria. Outdoor samples were also performed to be used as reference. Surface and equipment's swab samples were also collected side-by-side. All the collected samples were incubated at 27°C for 5 to 7 days (fungi) or at 30° for 7 days (bacteria).

Regarding fungal distribution, thirteen different species/genera were found in the air, being the most common *Alternaria* sp. (62.0%). Eight different species/genera were identified in the surfaces, ranging from 2 to 5x10⁴ CFU/m², being the most common *A. versicolor* complex and *Penicillium* sp. (40.0%). The trial frames were the most contaminated equipment, since 50.0% of the collected samples were with countless colonies. The airborne bacterial population indicated higher concentrations in the contactology office (average: 133 CFU/m³) than in the client's waiting rooms (average: 126 CFU/m³). The surface samples indicated bacterial concentrations ranging from 2x10⁴ to 1x10⁶ CFU/m², pointing out the automatic refractometer as the surface with higher bacterial load.