

COMPARATIVE STUDY OF AIR QUALITY BETWEEN CRITICAL AND SEMI-CRITICAL AREAS IN TWO TERTIARY HOSPITALS OF FORTALEZA – CE

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ABSTRACT

Critical and semi-critical areas of hospitals are environments conducive to the proliferation of microorganisms, especially airborne fungi, and these can be pathogenic putting in risks immunocompromised and the people who circulate these areas. Thus, the present study carried out a comparative study between critical and semi-critical areas of two tertiary hospital of Fortaleza – CE, taking in consideration the quantity and diversity of the fungi spectrum. Between Oct 2016 and Mar 2017 proceeded six collecting by the method passive sedimentation, with exposition of Petri dishes. Monthly, the Petri dishes with Potato Dextrose Agar were exposed for 12 hours, in the Intensive Care Unit and in the emergency room, both with air conditioning, of 2 tertiary hospitals of Fortaleza. The critical areas (I.C.U) presented a mean of 111.40 CFU.m⁻³, where the U.C.I of hospital B were the most bio contaminated (a mean of 112,07 CFU.m⁻³), while the semi-critical areas (emergency room) the average was 89,88 CFU.m⁻³. In relation with the fungi diversity, the two hospitals were observed 22 fungi genera in the critical areas and 27 genera in the semi-critical, highlighting to the genera *Aspergillus* (83% in hospital A and 100% in hospital B) and *Penicillium* (100% in hospital A and 83% in hospital B). Also, in the semi-critical areas both hospitals were verified the presence of the genera *Paecilomyces* (33, 3%), while, the critical areas, observed the presence of the genera *Cladosporium* (50%) and *Paecilomyces* (33, 3%) in both hospitals, *Acremonium* (50%) only in the I.C.U of hospital A, and finally, *Chrysosporium* and *Trichoderma* (33.3%) in the ICU of hospital B, the genera cited here were the most frequent, the others presented small percentages. In view of these results, we can infer that the hospital areas are within the limits of the CFU.m⁻³ standards established in ANVISA Resolution 9/2003, but the genera found have a considerable degree of pathogenicity and can cause risks of contamination to people, which are often in these places.

Keywords: Air quality, Public hospitals, Anemophilous fungi.

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