MICROBIAL CONCENTRATION OF AMBIENT AIR IN POLY-CLINIC ROOM AT COMMUNITY HEALTH CENTER, KENDARI, SOUTH EAST SULAWESI

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ABSTRACT

Background: The risk of nosocomial infection is increasing due to the increasing number of patients with immune depression. Good ventilation is one of the methods used to reduce the ambient air levels of the causative agents. This study tested the microbiological air quality at different areas of the Poasia community health center, Kendari, South East Sulawesi to ascertain the levels of airborne bacteria in the ambient air.

Subjects and Method: A cross sectional study was carried out at Poasia community health center, Kendari, South East Sulawesi. Seven rooms of the community health center were selected for this study including waiting room, laboratory, dental clinic, delivery room, general poly, treatment room, and kitchen. The dependent variable was existence the bacteria. The assessment was carried out by exposing petri dishes containing the appropriate culture media for about 30 min at a convenient place in each of the seven study sites. Thereafter, the plates were covered and immediately transferred to the laboratory for incubation at 37°C, for 24–48 h. The numbers of bacteria in the cultures were determined at the end of the incubation period

Results: Bacteria were detectable in the ambient air of all study sites. On Monday the highest level of microbia 74% was in the waiting room, and the lowest level 17% in the laboratory. On Tuesday the highest level was in the laboratory, and the lowest level 22% in the dental clinic. On Wednesday the highest level was 160% in laboratory, and the lowest level 19% in the maternity room. On Thursday the highest level was 110% in the laboratory, the lowest level was 19% in the maternity room. On Friday the highest level was 100% in the laboratory, and the lowest level was 25% in general poly, dental poly-clinic, and treatment room. On Saturday the highest level was 120% in the laboratory, the lowest level was 13% at the dentist clinic.

Conclusion: The indoor air of Poasia community health center were in the below of the range according to Decree of the Minister of Health of Indonesia No. 1204/MENKES/ SK/ X/ 2004. However airborne bacteria in the ambient air often associated with clinical manifestations like allergy, rhinitis, asthma and conjunctivitis. Thus, attention must be given to control those environmental factors which favor the growth and multiplication of microbes in indoor environment to safeguard the health of users and workers.

Keywords: microbia concentration, air borne, ambient air.

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