

## Concurrence of Nosocomial Infections with Microorganisms Spreading in the Air of Hospital Wards

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### Abstract

**Background and objectives:** A Nosocomial infection is one of the Leading problems causing high mortality among hospitalized patients. This study aimed at confirming the concurrence of Nosocomial infections with microorganisms spreading in the air of hospital wards.

**Material and Methods:** This study was conducted in 2009 at ValieAsr Hospital in Tehran, Iran. The Samples were taken from the air of different sections of the hospital both actively (with Quick-Tak, 30) and passively. After that, the samples were investigated for bacterial and fungal contamination and the results were compared with the results of Laboratory Studies of patients in different wards.

**Results:** The Bone Marrow Transplant (BMT) ward shows the least fungal and microbial contamination while the Intensive Care Unit (ICU) the highest. The fungi are essentially *Cladosporium* and *penicillium* while the most well-known organisms are *Micrococcus* and *Staphylococcus epidermidis*. *Stenotrophomonas* is seen in both blood and air culture in thorax surgery ward. Also, the concurrence of *Staphylococcus epidermidis* in the samples of the air and patients is considerable.

**Conclusion:** There isn't concurrence between the Nosocomial caused organism, apart from *Stenotrophomonas* and *Staphylococcus epidermidis*, and microorganisms isolated from patients. Because the bacterial and fungal organisms are in the air of Hospital, it is a necessity to install proper ventilation system.

**Keywords:** Air Bacterial Contamination, Hospital, Nosocomial Infection