

The Effect of Air Ionization on Microbial Content of the Air

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Abstract

Background and objectives: Air ionization (AI) may reduce the microbial content of the air and has bactericidal effects on some bacterial Strains, which is controversial. We conducted this study to evaluate the efficacy of Air ionizer in reducing the microbial content of air.

Material and Methods: This experimental Study was carried out in Sadi Hospital of Isfahan. Two air ionizer were placed in two boxes. and the third box (Control) was empty. At the beginning of experiment and every 30 minutes up to three hours, we did air sampling in all groups. After taking the samples of every box, we incubated the samples and then performed colony counts and bacteriologic studies.

Results: In all thirty-minute intervals, Colony Counts in all groups were lower than control group ($P<0.05$). 'Coagulase negative staphylococcus (CNS) was the most common bacteria isolated followed by Bacillus spp, Acinetobacter and Escherichia Coli, in control group, no colonization of Acinetobacter and E.coli is found in Air ionizer groups.

Conclusion: Our findings qualitatively indicate that air ionization can reduce the microbial content of the air. Regarding the type of microbial air pollution and the amount of air cleaning needed, this method can be used solely or in combination with other air cleaning methods.

Key words: air ionization, air cleaning air bacteria.