

Turkish Journal of Medical Sciences

Turkish Journal

of

Medical Sciences

Survival of certain nosocomial infectious agents on the surfaces of various covering materials

Halil YAZGI¹



M. Hamidullah UYANIK¹

Mustafa ERTEK²

Ayşe Esin AKTAŞ¹

Hakan İGAN¹

Ahmet AYYILDIZ¹

 [Keywords](#)
 [Authors](#)

¹ Department of Microbiology and Clinical Microbiology,
Faculty of Medicine,
Atatürk University,
Erzurum - TURKEY

² Refik Saydam National Hygiene Center, Ankara - TURKEY



medsci@tubitak.gov.tr

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Abstract: Aim: The aim of the present study was to investigate the survival time of some nosocomial infectious agents on the surface of various covering materials. Materials and Methods: Four kinds of flooring materials (vinyl and ceramic tile as floor covering material; and laminate and inox sheet as bench covering material) were experimentally contaminated with Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus and vancomycin-resistant (VR) Enterococcus faecalis, which were frequently encountered in nosocomial infections. The survival periods of representative agents on the tested flooring materials were detected by culturing from the surfaces. Results: It was found that the survival periods were shorter for all the tested bacteria on the vinyl surfaces, as compared to the ceramic surfaces; the difference was significant ($P < 0.05$). On the other hand, all the test bacteria survived shorter on the inox sheet than on the laminate surfaces ($P < 0.05$). On all of the 4 covering materials tested gram-positive bacteria were found to survive longer than the gram-negative ones. Conclusions: It was concluded that vinyl as flooring material and inox sheet as surface material for benches and laboratory tables may be preferred in order to reduce bacterial colonisation in the hospital environment.

Key words: Surface covering materials, nosocomial infection, Staphylococcus aureus, Enterococcus faecalis, Escherichia coli, Pseudomonas aeruginosa

Turk J Med Sci 2009; **39**(4): 619-622.

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