

Bacterial Contamination and Antibiotic Resistance of Staphylococcus Aureus Isolated from Automated Teller Machine

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Abstract

Background and Objective: Automated Teller Machine (ATMs) is likely to be contaminated with various microorganisms specially pathogen germs. This may be due to their exposure to dust and their vast dermal contact with multiple users. This study investigated the bacterial contamination on the keyboard of ATMs and drug resistance of the bacteria isolated from them.

Material and Methods: the keyboards of 50 ATMs in Shahrekord city, Iran, were examined from October 2012 to February 2013. The sterile swab sticks moistened with Tryptose soy broth were used for sampling. The bacteriological tests used were culture, biochemical test and agar disk diffusion method for antibiogram.

Results: All the samples were found to be contaminated with *Coagulase negative staphylococci* (57.54%), *Bacillus species* (21.92%), *Staphylococcus aureus* (19.18%) and *coliform* bacteria (1.36%). The resistance of *Staphylococcus aureus* was 92.8% to penicillin, 85.7% to amoxicillin, 71.4% to ampicillin, 57.1% to nitrofurantoin, 50% to tetracycline, 42.8% to erythromycin, 42.8% to gentamycin, 14.2 % to ciprofloxacin, 7.1% to trimethoprim and sulfamethoxazole. All species were susceptible to, ofloxacin, chloramphenicol, clindamycin, tobramycin, vancomycin and cefotaxime.

Conclusion: given the presence of pathogens on ATMs and their role in transferring the contamination, we recommend considering personal hygiene and periodically disinfecting the keyboards to reduce contamination.

Keywords: ATMs, Bacterial Contamination, Antibiogram