

# ***Bacterial Contamination of Collected Cockroaches and Determination their Antibiotic Susceptibility in Khorramabad City, Iran***

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## ***Abstract***

***Background and Aim:*** Cockroaches are one of the most important carriers of pathogenic microorganisms. Therefore, the presence of cockroaches in public places, especially in hospitals, homes, and restaurants, is dangerous, and threatens the health of society, people, and the environment. The aim of this study was evaluation of bacterial contamination of cockroaches and the sensitivity of these bacteria to various antibiotics, captured from Khorramabad City, Iran.

***Methods:*** This descriptive cross-sectional study was performed on 150 cockroaches collected from hospital environments, homes, and restaurants in Khorramabad. The outer surface of the cockroaches was washed with physiological saline. The suspension was centrifuged for 5 minutes at 2000rpm. Isolation and identification of bacteria was performed using phenotypic methods. Antibiotic susceptibility testing was performed by disk diffusion method according to Clinical and Laboratory Standard Institute (CLSI) guideline.

***Results:*** A total of 100 American cockroaches (66.66%), 28 *B. germanica* (18.66%) and 22 *Blatta orientalis* (14.66%) were identified. In total, 97.33% of the collected cockroaches were infected with bacteria. The most bacterial infection of the cockroaches was *Escherichia coli*, coagulase-negative *Staphylococci* and *Bacillus* respectively. The overall results of the antibiogram test showed that the identified bacteria were resistant to cephalothin, ampicillin, cefotaxime, and kanamycin antibiotics, semi-sensitive to ciprofloxacin and sensitive to tetracycline, gentamicin, nitrofurantoin, Trimethoprim/sulfamethoxazole, and Chloramphenicol.

***Conclusion:*** Infection of cockroaches with pathogenic bacterial agents in hospital, residential, and restaurant environments, as well as the observation of bacterial resistance to some common antibiotics is worrying.

***Keywords:*** Cockroaches, Bacteria, Antibiotic

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