Bacteria and fungi species associated with digestive system of Blattella germanica L. collected in spring and autumn from various parts of a public hospital in Mashhad, Iran.

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With regards to the role of cockroaches in transporting and distributing of various disease agents in remedial and hospital environments, the present study aimed to study the bacteria and fungi flora associated with the digestive system of Blattella germanica L. collected in spring and autumn (2010-2011) from different sections of a general hospital in Mashhad. Ten cockroaches were captured from each of 5 locations. After dissection of digestive system under sterile conditions, the extracts were incubated in EMB and Blood Agar medium. Bacteria and fungi were identified by clinic of microbiology of Imam Reza hospital of Mashhad. In autumn, the most prevalent bacterium was Enterococcus spp. (78%). Other bacteria consisted of Coagulase Negative Staphylococci, Staphylococcus aureus, Streptococcus spp., Escherichia coli, Klebsiella spp., Pseudomonas aeruginosa and Gram positive bacilli. In this season, 8 (out of 50) cockroaches were contaminated with fungi (16%), namely Penicillium spp. (50%), Mucor spp. (37.5%) and Aspergillus spp. (12.5%). In spring, the most prevalent species was Enterococcus spp. (48%). Other bacteria in this season consisted of Coagulase Negative Staphylococci, S. aureus, E. coli, Klebsiella spp., Tettragen spp., Citrobacter frondi, Serratia marseens and Gram positive bacilli. In this season, 6 cockroaches were contaminated with fungi (14%), namely Penicillium spp. (14%), Mucor spp. (57%), Aspergillus spp. (14%) and Candida albicanse (14%). The results suggested that for reducing the risk of transmission of various disease agents, suitable control measures should be applied to manage the population of cockroaches in hospitals.