

Evaluation of Microbial Contamination of Domestic Multi-Dose Eye Drops in Amman, Jordan

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Abstract

Contaminated eye drops remain a potential cause of serious second eye infections, and a source of ocular disorders such as conjunctivitis, keratitis, and corneal ulcers. The aim of this study is to identify the contamination of domestic multi-dose eye drops after one month of first opening in Amman, Jordan. The tip and residual content of eye drop bottles were examined 4-6 weeks of first opening, the period after which the eye drop should be discarded. A total of 45 eye drops bottles have been collected and inoculated on different culture media. Susceptibility of identified bacterial cultures were evaluated against antibiotics and benzalkonium chloride using Kirby-Bauer method. A total of 12 of 45 eye drop bottles (26.7%) showed positive cultures. The isolated organisms found in eye drop bottles were opportunistic pathogens and environmental *spp*. The identified bacterial species were *Staphylococcus epidermidis*, *Micrococcus luteus*, *Bacillus cereus*,

Bacillus subtilis, *Pseudomonas aeruginosa* and *Escherichia coli* in addition to yeast.

The dropper tip was contaminated at a higher rate than the residual content.