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## Isolation and molecular identification of *Acanthamoeba* spp. in surface waters of Qaen County, north of South Khorasan, Iran

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Free living amoebae (FLA) are frequently distributed in environment, such as air, water, dust and soil. Some strains of *Acanthamoeba* spp. are non-pathogen, while others are pathogenic in immunocompromised patients or even healthy persons. So, due to their medical importance, identification of free living amoeba in water resources as a source of human infection is necessary. The aim of this study was isolation and molecular identification of *Acanthamoeba* spp. in surface waters of Qaen County, north of South Khorasan, Iran, during 2014-2015. In a cross-sectional study, 50 samples were collected from different locations in Qaen County including surface waters, pools and fountains in parks and squares and water stations from October 2014 to January 2015. Each sample was filtered through a nitrocellulose membrane filters and cultured on non-nutritive agar (NNA) with *Escherichia coli* suspension and incubated for 1 week to 2 months at room temperature. The plates were examined by microscopy to morphologically identify *Acanthamoeba* spp. Following DNA extraction, PCR using specific primers (JDP1, JDP2) was used to confirm the morphologically identification. Out of 50 water samples, 19 (38%) were positive for *Acanthamoeba* trophozoites and cysts according to morphological criteria. In addition, *Acanthamoeba* spp. was identified by PCR method using genus specific primers pairs in 15 (78.9%) cases of positive cultures showing a nearly 500 bp band. According to prevalent of *Acanthamoeba* spp. in surface stagnant waters of Qaen County, more attention to the potential role of such waters in transmission of infection by the regional clinicians and health practitioners is necessary.

### Biography

Mahmoodreza Behravan has completed his Msc of Medical Parasitology from Shahid Beheshti University of Medical Sciences, Iran and PhD studies from Isfahan University of Medical Sciences, Iran. He is the Researcher and Faculty Member of Department of Microbiology at Birjand University of Medical Sciences, Iran.

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