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Antibacterial activity of natural honeys against clinical strains of *Proteus* spp. in Najaf, Central Iraq

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Abstract

Antibiotic-resistant bacteria have become a challenging public health problem worldwide. Thus discovery of alternative therapeutic agents is needed. Honey is a natural product and one of the oldest traditional medicines that has been highly reputed and widely used for the treatment of several human diseases for thousands of years. The present study aims to explore the in vitro antibacterial activity of some Iraqi honeys on isolated bacteria from Urinary Tract Infections (UTIs) and comparison of antimicrobial activity of honey samples with potential antibiotics. The antibacterial activities of ۸ Iraqi honeys and ۴ control honeys against ۱۰ multi-drug resistant clinical isolates of *Proteus mirabilis* and *Proteus vulgaris* from UTIs and reference strain (*E. coli* ATCC ۱۰۵۳۶) were determined by broth micro-dilution test to determine minimum inhibitory concentrations (MIC) and minimum bactericidal concentrations (MBC). The MIC of Iraqi honeys ranged from ۱۲,۵% to ۲۵% (w/v) for clinical strains and ۶,۲۵% to ۲۵% (w/v) for references strain. Most samples of Iraqi honeys had little effectiveness against these strains compared to control honeys and antibiotics. Consequently, Iraqi honeys may be sources of distinct antimicrobial agents that could be used as ingredients in nutraceutical products due to their pharmaceutical properties against multi-drug resistant bacteria.

Key words: Antibacterial activity, Iraqi honeys, *Proteus mirabilis*, *Proteus vulgaris*

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