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Comparison between Iraqi and Iranian honeys in inhibition of bacterial respiratory tract infections

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Abstract

The emergence of antibiotics has led to the emergence of multi-drug resistant strains, so return to natural products is the best solution. Honey is one of the products that have been used since ancient times. Till now, the effectiveness of Iraqi honeys has not been studied. In present study, antimicrobial activity of eight Iraqi honeys from diverse geographical areas and 4 identified Iranian honeys was studied against five multi-drug resistant strains of *K. pneumonia* isolated from respiratory tract infections (RTIs) and *K. pneumonia* ATCC 10031 in comparison with antibiotics. By using standard methods, different concentrations of honey were tested against each type of microorganism to determine the minimum inhibitory concentration (MIC) or minimum bactericidal concentration (MBC). Most Iraqi honeys had little effectiveness against these strains compared to Iranian honeys and antibiotic. The MICs of Iraqi honey samples ranged from 6.25% to 25% (w/v) for references strain and against clinical *Klebsiella* strains were not lower than 25% (w/v). Also, no bactericidal activity was seen. Honey as a medicinal agent must have a strong and rapid antibacterial activity against bacteria resistant to antibiotics, thus it's necessary to evaluate the characteristics of different honeys from diverse geographical regions more deeply.

Key words: Antimicrobial activity, Iraqi honeys, Respiratory tract infection, *K. pneumonia*