

Inhibitory Attributes of Saudi Honey Against Hospital Acquired Methicillin Resistant Staph. aureus (MRSA) and Acinetobacter baumannii

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Abstract : The aim of this study was to examine the antibacterial activity of the peroxide components of some locally produced honeys: Toran, Zaitoon (Olive), Shafalah, Saha, Jizan, Rabea Aja, Fakhira, Sedr Aljanoob, Tenhat, Karath and Bareq against two of the drug resistant bacteria; i.e., methicillin resistant Staph. aureus (MRSA, ATCC 43330) and Acinetobacter baumannii. Measurement of the antibacterial activity of honey samples by using the agar well diffusion method was adopted as follows: by using turbidity standard McFarland 0.5, suspensions of bacterial strains MRSA ATCC 43330 and Acinetobacter baumannii were prepared. By the spreading plate method, 100 µl of the suspension was inoculated onto Muller-Hinton agar medium. On the inoculated agar medium, five wells were made using a sterile cork borer (diameter 5 mm). 100 µl of honey dilutions (10%, 30%, 50%, 70% and 100%) were used. The study indicated that the highly effective activity was in some local honey samples such as Toran honey against MRSA, and Shafalah honey against MRSA and Acinetobacter baumannii which showed bactericidal effects at concentrations 70 % to 100 % as well. The majority of local honey samples recorded bacteriostatic effects on MRSA and Acinetobacter baumannii at concentrations 50 % and above. In conclusion this investigation indicated that in regard to the majority inhibitory effect on microorganisms, the existing of H₂O₂ in honey samples together with phenolic content greatly provide a strong antibacterial activities among different types of honey, because in some previous studies the H₂O₂ content of honey interacts with phenolic content and showed better inhibitory effect than in absent of H₂O₂.

Keywords : antibacterial activity, honey, hospital acquired, Saudi Arabia

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