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## Bioactivity of different bee honey samples

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**Background:** The therapeutic value of honey was underlined in various literatures. Honey was widely used in folk medicine throughout the world. Honey has been used to treat a number of clinical conditions: Treatment of burns, wounds, peptic ulcers, gastritis, eye infection and sore throat. Antibacterial activity is attributed partially to the high osmolality of the sugar content of honey. Additional antibacterial activity of honey was investigated by extraction and fractionation of honey by organic solvents. Honey ethyl acetate extract revealed potent antibacterial activity.

**Objectives:** The objective of the current prospective study is to determine the antimicrobial activity of fifteen (15) different honey samples collected from different floral origin and to verify the nature of active fraction of bee honey.

**Methods:** Fifteen different raw bee honey samples were obtained from different countries, as well as commercially sold honey samples from the local market different brands, of different floral origin. *In vitro* antibacterial activity of bee honey, petroleum ether, diethyl ether and ethyl acetate extracts of honey samples were tested against five standard organisms; *Staphylococcus aureus*: ATCC 29213, *Staphylococcus Methicillin Resistant (MRSA)*, ATCC: 23591 *Escherichia coli*: ATCC 25922 *Klebsiella pneumoniae*: ATCC 700603 and *Pseudomonas aeruginosa*: ATCC 27853.

**Results:** All honey samples exerted inhibitory effects on both Gram-positive and Gram-negative organisms. The petroleum ether and diethyl ether fraction exerted no activity, while the aqueous residue exerted strong antibacterial activity. Ethyl acetate fraction showed strong antibacterial activity.

**Conclusion:** The findings of the current study confirmed that all honey samples exerted strong antibacterial activity. The chemical findings of this study indicate the presence of polar antibacterial agent(s) which is characterized by its extractability by ethyl acetate to the organic phase.

### Biography

Mahasin Ahmed Wadi has completed her PhD in Medical Microbiology and is currently working at College of Nursing, Princess Nourah Bint Abdulrahman University, Riyadh, Saudi Arabia. She has published a numbers of papers in reputed journals and participated in many internationals and national conferences. She issued a patent research about the antimicrobial activity of Sudanese bee honey. She is a Member of many international associations: German Apitherapy Society, American Apitherapy Society, International Bee Research Association, European Society of Clinical Microbiology and Infectious Disease ESCMID. She has served as a Reviewer of various journals and has her research interest in the antibacterial and haling effects of Bee honey as natural product.

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