

# Integrative Biology

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## Antibacterial and phytochemical properties of Qutran (wood tar) from *Olea europaea* subsp. cuspidate growing in Saudi Arabia (Al Bahah district)

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Qutran (Wood tar) oils and vapor of *Olea europaea* subsp. cuspidate extracted medicinal plants were screened for their activity against seven strains of bacteria. *Bacillus subtilis*, methicillin-resistant *Staphylococcus aureus* (MRSA), *Micrococcus*, *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Klebsiella pneumonia* using agar well diffusion method were investigated. Results showed that the effect of oils extract was higher than that of vapor. The tar oils have great antibacterial activity against all the investigated strains. The growth inhibition rate ranged from 16.33 to 46.00 mm. The wood tar oil showed higher activity against tested organisms than Streptomycin. In this study the most pronounced effect was shown by that of *Olea europaea* subsp. cuspidata wood tar oil. The most susceptible bacteria were *Pseudomonas aeruginosa*, followed by *Micrococcus luteus*, while the most resistant bacteria were *Staphylococcus aureus* with 16.33 mm of inhibition zone. The results showed that wood tar oil of *Olea europaea* subsp. cuspidate was more effective than Streptomycin. GC-MS analysis revealed that the Qutran (Wood tar) oils contained mainly Octadecenamide (5.77%); Lucenin 2 (5.46%); Docosane and Nonacosane (3.75%); Cyclopropene (3.50%); Hematoporphyrin (2.68%); Tetratetracontane (2.36%); Dotriacontane (1.57); Acetic acid (1.53); N-methylglycine (1.49%); Propyne antimicrobial (1.41%). All identified compounds are known to have antimicrobial activity.

### Biography

Abdul Rahman Hajar has completed her PhD and Postdoctoral studies from King Abdulaziz University, Saudi Arabia. She has published more than 45 papers in reputed journals and has been serving as an Editorial Board Member of reputed.

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