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Using antimicrobial activities of plant crude saps for controlling human pathogenic bacteria

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This research was conducted to study the antibacterial activity of some Palestinian plants against seven human pathogenic bacteria using the agar disk-diffusion method. Evaluation of the antibacterial activities of plant saps based on the width of the bacterial inhibition revealed that *Eucalyptus camaldulensis* (0.3 cm), *Allium sativum* (0.2 cm), *Ceratonia siliqua* (0.15 cm) and *Amygdalus communis* (0.15 cm) have the best antimicrobial activities against the bacterial mixture compared with the other fourteen tested plants. Furthermore, *E. camaldulensis* showed the strongest antimicrobial activity among the four plants. Also, *A. sativum* have the maximum anti-microbial action against all types of the tested bacteria. In addition, saps of *E. camaldulensis* and the mixture of *E. camaldulensis* and *A. sativum* have a strong ability to kill all types of the tested bacteria followed by the mixture of *C. siliqua* and *A. sativum*, the mixture of *C. siliqua*, *A. sativum* and *E. camaldulensis* and the mixture of *A. communis*, *A. sativum* and *E. camaldulensis* that have significant results as anti-microbial agents against most types of the tested bacteria. The results showed that *A. sativum* and the mixture of *A. sativum* and *C. siliqua* have the maximum antimicrobial activity against *Staphylococcus aureus*, whereas, *Micrococcus luteus* was strongly inhibited by *E. camaldulensis*, *A. sativum*, the mixture of *E. camaldulensis* and *C. siliqua*, the mixture of *E. camaldulensis* and *A. sativum*, and the mixture of *E. camaldulensis*, *A. sativum* and *C. siliqua*. *Escherichia coli* was efficiently inhibited by *A. communis*, *A. sativum*, and *E. camaldulensis* and also by the mixture of *A. sativum* and *E. camaldulensis*. *Pseudomonas aeruginosa* was inhibited in a significant amount by *E. camaldulensis* and *A. sativum*, whereas, *Proteus vulgaris* was strongly inhibited by the *A. sativum*. *Bacillus subtilis* was strongly inhibited by *A. sativum*, while, for the *Klebsiella pneumoniae*, most saps revealed an intermediate inhibition except the *A. communis*, which showed the lowest inhibition value. Therefore, the current study elucidated that *E. camaldulensis*, *A. sativum*, *C. siliqua* and *A. communis* are the best tested Palestinian plants containing the antibacterial agents against the tested bacterial types.