

عنوان مقاله:

Assessment of Antibacterial Efficacy of *Callistemon viminalis* (Sol. ex Gaertn.) G. Don against Some Isolates Obtained from Urinary Tract Infections

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خلاصه مقاله:

This study aimed to examine the antibacterial effects of constituents obtained from *Callistemon viminalis* leaves. This goal was achieved by using three organic solvents, namely Ethanol, Ethyl acetate, and Hexane to prevent the growth of the causative urinary tract infections isolates, such as *Escherichia coli*, *Pseudomonas aeruginosa*, *Klebsiella pneumonia*, and *Proteus sp.* in Iraq. The *C. viminalis* fresh leaves collected from different regions of Hillah City, during March ۲۰۲۰, were classified according to the taxonomic features of Iraqi Flora. Extractions were completed by a method of digestion and then the stock solution of ۲۰۰ mg/mL was prepared in ۱۰% of Dimethylsulfoxide. A Millipore filter (۰.۲۲ μ m) was used for the sterilization of all the extracts used in this study. Agar well diffusion method was utilized to test the antibacterial effects of the constituents separated from the dried leaves of *C. viminalis* against the urinary tract infection bacteria at three concentrations of ۵۰, ۱۰۰, and ۲۰۰ mg/mL for each extracted constitute by the three different solvents. Dimethylsulfoxide ۱۰% and the meropenem were utilized as the negative and positive controls. Constituents separated by ethanol solvent at ۲۰۰ mg/mL exhibited significant supremacy ($P \leq ۰.۰۵$) over the meropenem against *Proteus sp.* isolate, and exhibited the same significant difference ($P \leq ۰.۰۵$), compared to the meropenem drug against *E. coli*. Constituents extracted by Ethyl acetate organic solvent at a concentration of ۲۰۰ mg/mL exhibited a similarly significant effect ($P \leq ۰.۰۵$), compared to the meropenem against *Proteus sp.* isolate. However, the hexane extract was the least effective among the other solvents utilized in this study. The results of the current study revealed that constituents in the leaves of *C. viminalis* could be considered a valuable herbal remedy for controlling urinary tract infections pathogenic bacteria.

کلمات کلیدی:

Antibacterial activity, *Callistemon viminalis*, Urinary tract infections

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