

Correlation Between *Vicia ervilia* L. Willd. Antibacterial Activity

Miriam Fouad Yousif, Mona M. Okba, Kadriya S. El Deeb, Fathy M. Soliman

Professor

Abstract

Context: Plants are important in devising new antibacterial drugs. Unlike several fabaceae seeds, *Vicia ervilia* L. Willd., is not used up till now for human consumption. Objective: evaluate antibacterial potential of the seeds and correlate it, if any, with its phenolics. Methods: Seeds ethanol (SEE), aqueous (SAE), and methanol (SME) extracts were prepared. Their total phenolic content (TPC) was determined spectrophotometrically. Antibacterial activity against ten pathogenic bacteria (*Mycobacterium africanum*, *M. bovis*, *M. caprae*, *M. microti*, *M. orygis*, *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Salmonella typhimurium*) was evaluated using agar well diffusion assay. Also the minimum inhibitory and bactericidal concentrations (MIC & MBC) were also determined. Results: Total phenolic content of SME is significantly ($p < 0.001$) higher than that of SEE (4.8 and 2.5 $\mu\text{g}/\text{mg}$ gallic acid equivalent respectively). SME and SEE significantly inhibit the growth of all tested strains except *M. caprae* and *P. aeruginosa*. *V. ervilia* L. Conclusion: The seeds significant antibacterial activity was attributed to its phenolics. Keywords: phenolics, antibacterial activity

Journal of Natural Sciences Research - 2016, December