

In Vitro Antibacterial Activity of Selected Tanzania Medicinal Plants

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Abstract : Objective: To evaluate antibacterial activity from four selected medicinal plants namely *Mystroxylon aethiopicum*, *Lonchocarpus capassa*, *Albizia anthelmentica* and *Myrica salicifolia* used for management of bacterial infection in Tanzania. Methods: Minimum Inhibitory Concentration (MIC) of plants extracts against the tested bacterial species was determined by using 96 wells microdilution method. In this method, 50 μ L of nutrient broth were loaded in each well followed by 50 μ L of extract (100 mg/mL) to make a final volume of 100 μ L. Subsequently, 50 μ L were transferred from first rows of each well to the second rows and the process was repeated down the columns to the last wells from which 50 μ L were discarded. Thereafter, 50 μ L of the selected bacterial suspension were added to each well thus making a final volume of 100 μ L. The lowest concentration which showed no bacterial growth was considered as MIC. Results: It was revealed that *L. capassa* leaf ethyl acetate extract exhibited antibacterial activity against *Salmonella kisarawe* and *Salmonella typhi* with MIC values of 0.39 and 0.781 mg/mL respectively. Likewise, *L. capassa* root bark ethyl acetate extracts inhibited growth of *S. typhi* and *E. coli* with MIC values of 0.39 and 0.781 mg/mL respectively. The *M. aethiopicum* leaf and root bark chloroform extracts displayed antibacterial activity against *S. kisarawe* and *S. typhi* respectively with MIC value of 0.781 mg/mL. The *M. salicifolia* stem bark ethyl acetate exhibited antibacterial activity against *P. aeruginosa* with MIC value of 0.39 mg/mL whereas the methanolic stem and root bark of the same plant inhibited the growth of *Proteus mirabilis* and *Klebsiella pneumoniae* with MIC value of 0.781 mg/mL. Conclusion: It was concluded that *M. aethiopicum*, *L. capassa*, *A. anthelmentica* and *M. salicifolia* are potential source of antibacterial agents. Further studies to establish structures of antibacterial and evaluate active ingredients are recommended.

Keywords : *Albizia anthelmentica*, *Lonchocarpus capassa*, *Mystroxylon aethiopicum*, *Myrica salicifolia*

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