Screening of some Kenyan Medicinal Plants for Antibacterial Activity

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Abstract

This study reports on the bioactivity and in vitro antimicrobial action of methanol extract of Withania somnifera using in vitro cultures of Staphylococcus aureus, Escherichiacoli, Candida albicans, Salmonella typhimurium and Pseudomonas aeruginosa. The extract of W. somniferum inhibited the growth of S. aureus and C. albicans but not E. coli, S. typhimurium and P. aeruginosa. The diameters of the zones of inhibitions of microbial growth ranged from 14 mm to 16 mm. The results of antimicrobial testing of W. somnifera extract indicated that it has antimicrobial properties, which support its continued use as a herbal remedy. Comparative toxicity of extracts of W. somnifera and Chrysanthemum cinerariaefolium (pyrethrum plant) was done using the brine shrimp lethality test at serial dilutions of 1000 pg/ml, 100 pg/ml and 10 pg/ml. The median lethal concentration (LCso) for each extract was determined. Both plant extracts were found to be toxic to brine shrimp with LCso of 110.3 pg/ml and 106.6 pg/ml for W. somnifera and C. cinerariaefolium respectively.