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Antibacterial and oral acute toxicity studies of *Euphorbia hirta*

Tanyi Samuel Tanyi

Federal University Dutsin-Ma, Nigeria

Due to high cost, undesirable side effects of conventional antibiotics and emergence of multi-drug resistant bacteria, there is a need to search for novel antibacterial agents from medicinal plants. In this study, clinical isolates of *Staphylococcus spp.*, *Salmonella spp.*, *Shigella spp.* and *Escherichia coli* were obtained from Usmanu Danfodiyo University Teaching Hospital Sokoto, Nigeria. The isolates were tested for susceptibility to crude leaf extracts of *E. hirta* by agar diffusion method. Minimum Inhibitory Concentration (MIC) of the extract was determined by broth dilution method. The results showed that the most susceptible bacterium to the extract was *Shigella*, with a zone of inhibition of 23.33 mm, while the most resistant bacterium was *E. coli*, with a zone of inhibition of 9.43 mm. MIC and MBC of the extract against *Shigella* was 21.87 mg/ml respectively. Alkaloids, saponins, flavonoids, anthraquinones, tannins and polysterols were revealed in the extract by phytochemical analysis. Oral acute toxicity of the extract showed no mortality in Sprague Dawley rats at concentration of 50,300,2000 and 5000 mg/kg body weight. Results showed that the LD₅₀ was > 5000 mg/kg. The MBC: MIC ratio >4, suggesting the crude extract was bactericidal. This study showed that leaves of *E. hirta* can serve as a potential antibacterial agent.

Biography

Tanyi Samuel Tanyi has completed his BSc and MSc from Usmanu Danfodiyo University Sokoto, Sokoto State, Nigeria. He is currently an Assistant Lecturer at Federal University Dutsin-Ma, Dutsin-Ma, Katsina State, Nigeria at the Department of Biological Sciences. He is involved in teaching and research in Microbiology at the University.

tsamuel@fudutsinma.edu.ng

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