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Phytochemical screening, isolation, characterisation and antimicrobial activities of some medicinal plants

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Ten plants commonly used for medicinal purposes in Nigeria were investigated for secondary metabolites and biological activities. The plants included *Parkia biglobosa*, *Waltheria indica*, *Lawsonia inermis*, *Mucuna pruriens*, *Anacardium occidentale*, *Vitellaria paradoxa*, *Jatropha curcus*, *Calotropis procera*, *Leptadenia hastate* and *Mitracarpus scaber*. Phytochemical screening of their crude ethanolic extract revealed the presence of glycosides, anthraquinones, tannins, steroids, flavonoids and saponins. The results of cytotoxicity test using of the extracts using *Aphyosemion gadneri* test (a non-conventional method) and brine shrimp lethality test (a conventional method) indicated various methods of activity. The results of the two tests were in consonance suggesting the possibility of standardizing *Aphyosemion gadneri* test for cytotoxicity test. The crude extracts exhibited various levels of acidities against *B. subtilis*, *P. aeruginosa*, *E. coli*, *S. typhi*, *A. niger* and *C. albicans* and *V. paradoxa* showed moderate to higher activity (zone of inhibition diameter range 15-27 mm) against both fungi and bacteria at the concentration of 7×10^2 $\mu\text{g/ml}$. Column chromatographic separation of the ethanol extract of *V. paradoxa* root bark lead to the isolation of four components that exhibited higher activities (zones of inhibition diameter of 17-28 mm for bacteria and 17-25 mm for fungi). Spectroscopic analysis of F1 and F2 using IR, NMR and GC/MS showed that F1 is butyl-2-ethylhexyphthalate and F2 is 1-phenyl-1,4-pentodione.

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