

Phytochemical screening, antimicrobial evaluation, and detection of caffeine and aspirin in herbal remedies used to treat typhoid fever

Abstract

The use of herbal medicines among Nigerians and the tendency by patients to combine this class of medicines with allopathic drugs is on the increase. This study was carried out to evaluate the antimicrobial quality, phytochemical screening and detection of orthodox drugs (caffeine and aspirin) present in locally prepared herbal remedies "Agbo" indicated for typhoid fever'. Phytochemical screening of different herbal samples for typhoid was carried out. The antimicrobial activity of these samples was evaluated against enteric bacteria: *Salmonella typhi*, *Escherichia coli*, *Proteus vulgaris* and *Klebsiella pneumoniae*. Investigation of the presence of aspirin and caffeine in most acidic samples was also carried out using High Performance Liquid Chromatography (HPLC). The investigated herbal remedies for typhoid fever revealed an array of potential phytochemicals: Alkaloids, Saponins, Tannins, Cardiac glycosides, Reducing sugars, Flavonoids, Steroids and Terpenoids. Only one (5%) of the 20 samples investigated possessed antimicrobial activity against the enteric organisms with minimal zone of inhibition. All the samples investigated possessed traces of caffeine while 70% contained caffeine and aspirin. Although the herbal preparations known as "Agbo typhoid" showed an array of phytochemicals, caution should be exercised in their consumption since they were found inactive against the causative organism for typhoid fever, *Salmonella typhi*. Introduction of orthodox drugs to herbal remedies is unacceptable since there could be unhealthy interactions. The presence of caffeine and aspirin in "Agbo" could be deleterious to health.