ABSTRACT

The alkaloids from *Tabernaemontana pandacaqui* and *Voacanga globosa* leaves were selectively extracted, quantified, and tested for their cytotoxic activity using the Brine Shrimp Lethality Assay (BSLA). The extraction procedures included methanol extraction, Mayer's reagent precipitation, and chemically active solvent extraction. The alkaloid content of the extracts were quantified as milligrams of Vincristine Sulfate Equivalent (mg VSE) using Bromocresol Green Assay. The results showed that the average alkaloid content of *T. pandacaqui* and *V. globosa* leaves are 46.7 mg VSE and 105.3 mg VSE which translated to percent yield of 0.234% and 0.527% respectively. These values may seem very low but taking into context that the standard alkaloid, vincristine from *Cantarantus roseus*, has a percent yield between 0.20-1.0% - the obtained percent yield is comparatively within the normal range of alkaloid yield from plants of *Apocynaceae* family. BSLA studies revealed that the LC_{50} values of *T. pandacaqui* and *V. globosa* leaves are of 167 ppm and 40.8 ppm respectively. These values are higher than the $LC_{50}$of vincristine sulfate at 5.03 ppm, which means that they are less cytotoxic than the standard used. However, they are still well within the defined threshold of cytotoxic potency at <200 ppm. This warrants the further investigation of their alkaloid content for their cytotoxic action which may prove useful in cancer chemotherapy.