

ABSTRACT

In vitro studies were conducted to determine the anthelmintic activity of ethanolic and water extracts aerial whole plant parts of *Euphorbia heterophylla*. Efficacy and potency of crude extracts was determined using 70% ethanol and water extracts in serial dilutions: 3 mg/ml to 64 mg/ml parallel to serial dilutions of albendazole 6.25 to 100 mg/ml in three replicates. *Ascaris suum* was used for the assays. The phytochemical screening of the extracts were carried out using standard laboratory methods. Both crude extracts of *E. heterophylla* and albendazole reduced worm motility by 100% in 48 h post treatment in a dose-dependent response when compared with negative control with median effective dose being 26.85 mg/ml, 4.60 mg/ml and 15.12 mg/ml respectively. All dose levels of *E. heterophylla* extracts caused a significant adult worm motility inhibition ($F_{(5, 53)}=4.41$, $P=0.003$; $R^2=0.92$). A significant difference in motility inhibition by the ethanolic, water extracts and albendazole treatments as measured by median effective doses of *E. heterophylla* ($F_{(2, 53)}=140.43$, $p=0.001$) was observed although water extract effect did not differ from albendazole effect ($p=0.878$). Phytochemical screening revealed presence of tannins, alkaloid, saponins, flavonoids, steroids glycosides, triterpenes, coumarin derivatives, anthocyanocides, anthracenocides and reducing sugars whose intensity varied with solvent used for extraction. The study revealed the anthelmintic potential of *E. heterophylla* and that water extract was more potent than ethanolic extract. The phytochemical compounds present justify the plant's ethno-veterinary use although *in vivo* efficacy evaluation and toxicity studies need to be carried to ascertain their bioavailability and safety to the animals.