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Abstract

In this work, *in vitro* antioxidant activities of ethanol extracts of *Vernonia amygdalina* (VAE) and *Annona muricata* (AME) leaves were comparatively evaluated using reducing power, 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical, hydrogen peroxide (H2O2) and superoxide anion radical scavenging assays as well as their inhibition concentration (IC50). The results showed that at maximum concentration (0.8mg/ml) on DPPH, percentage inhibition by ethanol
leaf extracts of *Vernonia amygdalina* and *Annona muricata* were 81.13% and 76.77% respectively while ascorbic acid had 89.53% inhibition with IC50 values of 0.38, 0.41, and 0.34mg/ml respectively. The percentage inhibition of ethanol leaf extracts of *Vernonia amygdalina* and *Annona muricata* on H2O2 was also at the maximum concentration of 0.8mg/ml which were 78.30% and 80.14% respectively while ascorbic acid, the standard had 85.86% inhibition with IC50 values of 0.42, 0.41, and 0.36mg/ml respectively. Against superoxide anion radical, the maximum % inhibition was 65.36% for *Vernonia amygdalina*, 67.97% for *Annona muricata* and 83.79% for ascorbic acid, with IC50 values of 0.55, 0.50, and 0.37mg/ml respectively. In conclusion, *Vernonia amygdalina* and *Annona muricata* leaves possess antioxidant properties probably due to presence of bioactive compounds such as flavonoids, saponins, tannins and alkaloids which have the ability to scavenge free radicals that causes oxidative stress.

**Keywords**: *Annona muricata*, Antioxidant, Free radical, *in vitro*, *Vernonia amygdalina*

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