Phytochemical, Antioxidant and Antimicrobial Activity of the Ethanol leaf extract of *Annona muricata*

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ABSTRACT

Annona muricata which belongs to the family of *Annonaceae*, has a widespread pan-tropical distribution and antispasmodic, emetic, and sudorific, hematuria and sedatives in herbal medicine. In this study, the phytochemical, anti-microbial and invitro anti-oxidative properties of ethanol leaf extract of *Annona muricata* was evaluated using standard methods. The quantitative and qualitative phytochemical screening revealed the presence of total flavonoids (4.33µg/ml), phenols (11.86µg/ml), alkaloids (0.002 µg/ml), saponins (312.0µg/ml) & tanins (4.16µg/ml). Reducing property was 90% compared to ascorbic acid used as control which was 95%. Susceptibility test using the extract at various concentrations against some pathological organisms gave the zones of inhibition, minimum inhibitory concentration (MIC) and minimum bactericidal concentrations (MBC) highest activities on *Staphylococcus aureus* and *Salmonella typhi* which had the zones of inhibition of 16.00mm and 11.00mm at 500mg/ml respectively as compared with the control (Amoxycillin 500mg/ml) which had 12.00mm zone of inhibition. *Candica albican* showed highest susceptibility at1000mg/ml with a zone of inhibition of 14.00mm, compared to the control (fuschin tablets 500mg/ml) with zone of inhibition of 13.40mm. The MIC obtained as 0.023mg/ml for *Staphylococcus aureus*, 0.006 for *E. coli*, and 0.094mg/ml for *Candida albican.* The MBC were 0.38mg/ml for *S.aureus*, 1.5mg/ml for *Salmonella typhi*, 0.38mg/ml for *E. coli*, and *Candida albican* 6.0mg/ml. Antimicrobial activities observed could be attributed to the presence of the phytochemicals in the extract which if exploited, could be used as templates for the synthesis of novel antibiotics especially with the widespread of antibiotic resistance.

Keywords: Phytochemicals, Antioxidant, Antimicrobial, *Annona muricata*