



VINGNANAM Research Conference

21st of July 2022



VRC-2022

Faculty of Science
University of Jaffna
Sri Lanka

Jointly Organized by

**Faculty of Science
University of Jaffna
Sri Lanka**



**Western Norway
University of
Applied Sciences**

In vitro antioxidant and anti-inflammatory activity of stem and roots of the *Psychotria sarmentosa* in Sri Lanka

**R. A. S. Sewwandi^{1*}, W. M. S. Menu¹, K. G. B. Madhumali¹, B. S. S. Perera¹,
W. T. S. Perera¹, D. N. A. W. Samarakoon¹ and M. A. Siriwardhene²**

¹ Department of Biomedical Science, Faculty of Health Science, KAATSU International University, Sri Lanka

² Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Science, University of Sri Jayewardenepura, Sri Lanka

* Correspondence: kiu.b4b2803@kiu.ac.lk

Psychotria sarmentosa Blume. is a climbing shrub belonging to the family *Rubiaceae*. It is also called "Gonica" in Sinhala. The aqueous extract of the leaves is used in traditional medicine to treat wounds and bruises. The decoction of tender stem and root with leaves is used for fracture healing and postpartum recovery. The use of *Psychotria sarmentosa* for the development of new drugs is still poorly explored. The study aimed to evaluate the antioxidant and anti-inflammatory activities of *Psychotria sarmentosa* cold acetone extract and its soluble compounds. The plant was authenticated by the Bandaranaike Memorial Ayurvedic Research Institute in Navinna, Maharagama (Acc. No 3022). The in-vitro anti-inflammatory activity of the acetone extract of *Psychotria sarmentosa* stem and roots was evaluated using an egg albumin denaturation assay and antioxidant activity was evaluated using H₂O₂ scavenging assay and a FRAP assay. The activity was evaluated against a known concentration of a standard. Egg albumin denaturation activity (IC₅₀ = 0.801 mg/mL), H₂O₂ scavenging activity (IC₅₀ = 0.1469 mg/mL) were present in the extract compared to standards of diclofenac sodium and ascorbic acid respectively. A 0.8 mg/mL concentration of the extract showed a 99 % FRAP activity when compared to a similar concentration of ascorbic acid activity. Diclofenac sodium was used as the positive control for the egg albumin assay. Ascorbic acid was used as the positive control for the H₂O₂ and FRAP assays. Triple distilled water was used as the negative control. It was determined that the stem and roots of *Psychotria sarmentosa* acetone extract have good antioxidant and anti-inflammatory activity.

Keywords: *Psychotria sarmentosa*, antioxidant, anti-inflammatory.