



RESEARCH PAPER

An *in vitro* evaluation of antibacterial activity of various extracts of *Achyranthes aspera* and *Cissus quadrangularis*

V. Sureshkumar*, S. Rajagunalan¹ and S. Malmarugan¹

Department of Veterinary Pharmacology and Toxicology, Veterinary College and Research Institute (TNVASU), Tirunelveli (T.N.) India (Email: drsurlpha@gmail.com)

Abstract : The antibacterial activity of aqueous and methanol extracts of *Achyranthes aspera* and *Cissus quadrangularis* was evaluated. *A. aspera* and *C. quadrangularis* plants collected from its natural habitat in and around Tirunelveli, Tamil Nadu, India were shadow dried at room temperature and pulverized into coarse powder. Aqueous extracts were prepared by extracting with distilled water at 100°C for 4h and methanol extracts were prepared by maceration process using methanol for 72h. The aqueous extract yield was 12.1% and 23.5% for *A. aspera* and *C. quadrangularis* respectively. Whereas, methanol extract yield was 6% and 4% for *A. aspera* and *C. quadrangularis*, respectively. The antibacterial activity of plant extracts against *Staphylococcus aureus* (MTCC-96) and *Escherichia coli* (MTCC-443) was evaluated by Agar well diffusion method. The diameters of zone of inhibition ranged from 8mm to 17mm with highest inhibition zone observed against *S. aureus* by methanol extract of *A. aspera* (17mm) followed by aqueous extract of *C. quadrangularis* (13mm) and methanol extract of *C. quadrangularis* (9mm). Whereas, zone of inhibition (8mm) against *Escherichia coli* was observed only with methanol extract of *C. quadrangularis*. The results necessitate further study to isolate the active principles from the plant extracts to exploit the potential antibacterial activity and to find novel pharmacological uses of these plants beyond their racial use.

Key Words : *Achyranthes aspera*, *Cissus quadrangularis*, Aqueous extract, Methanol extract, Antibacterial activity, ABST

View Point Article : Sureshkumar, V., Rajagunalan, S. Malmarugan, S. (2021). An *in vitro* evaluation of antibacterial activity of various extracts of *Achyranthes aspera* and *Cissus quadrangularis*. *Internat. J. agric. Sci.*, 17 (2) : 365-370, DOI:10.15740/HAS/IJAS/17.2/365-370. Copyright@2021: Hind Agri-Horticultural Society.

Article History : Received : 25.02.2021; Revised : 27.02.2021; Accepted : 16.03.2021

* Author for correspondence :

¹Department of Veterinary Public Health and Epidemiology, Veterinary College and Research Institute (TNVASU), Tirunelveli (T.N.) India