

## PP 08

**Pharmacognostical Study and Antacid Potency of Aqueous Extract of  
*Desmodium triflorum* Linn**

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**Background:** *Desmodium triflorum* (Heen-Undupiyaliya) is a small, prostrate perennial herb which belongs to the family Lamiaceae. The plant has been in folkloric use including gastric ailments.

**Objectives:** To analyze phytochemical profile and *in vitro* antacid potency of aqueous extract (AE) of whole plant of *D. triflorum*.

**Methods:** A detailed anatomical study and powder microscopy was performed. Dry powder (50 g) of whole plant was refluxed using distilled water for four hours. Crude AE was subjected for (a) preliminary phytochemical screening and (b) quantification of total polyphenol (TPC) and flavonoid content (TFC) using standard protocols. In addition, neutralizing effects on artificial gastric acid (AGA) were determined. Neutralization capacity was evaluated via the titration method of Fordtran's model and the samples at 37°C were titrated with 0.1N HCl and the mean volumes of HCl required to reach pH of 3.00 were determined. A modified model of Vatie's artificial stomach was used to determine the duration of consistent neutralization of AGA. A commercially available antacid was used as the positive control and distilled water served as the negative control. Statistical analysis was performed using SPSS software version 25.0.

**Results:** Fibers and calcium oxalate crystals were highly abundant components observed in the powdered samples and dicotyledon cellular structure was observed under anatomical studies conducted. Polyphenols, flavonoids, tannins, alkaloids, saponins, terpenoids, steroids and cardiac glycosides were present in AE. TPC and TFC of AE were 0.69 mg gallic acid equivalents/g and 0.95 mg quercetin equivalents/g, respectively. Different concentrations of the AE possessed significant ( $p < 0.001$ ) antacid potencies. Dose dependent increase in duration of consistent neutralization was observed in AE. AE at a dose of 58.0 mg/mL has exhibited the highest neutralizing capacity and higher duration of consistent neutralization ( $p < 0.001$ ) among the tested doses.

**Conclusions:** *D. triflorum* rich in phytochemicals and poses significant neutralization capacity.

**Keywords:** Antacid potency, Artificial gastric juice, *Desmodium triflorum*, Fordtran's model, Vatie's artificial stomach model