

PHYLLANTHUS NIRURI LINN: A NOVEL INSIGHT WITH THE PHYTOCHEMICAL PROFILE, THERAPEUTIC POTENTIAL AND FUTURE PROSPECTIVE

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Abstract - *P. niruri* is used as remedies for many conditions due to its richness of efficient medicinal metabolites. This study reviews the standardization process of the Ayurveda therapeutic potential of *P. niruri* using the phytochemical profile, to assess its quality, purity, safety and efficacy that promote better commercial exploitation. In the present review study, an attempt was done to evidence based scientific investigations on physico & phytochemicals, heavy metal and pharmacological activities of *P. niruri* Linn. The results indicate that the high total ash content of the *P. niruri* in Indonesia (7.93 ± 0.21), Sri Lankan study ($7.7 \pm 0.2\%$) is composed of physiological ash than Indian study sample (6.23 ± 0.41). However, the water soluble ash content was significantly higher in *P. niruri* grown in Sri Lanka compared to that grown in India. Sri Lankan phytochemical screening confirms the presence of tannins, flavonoids, steroid glycosides, coumarins, saponins and cardiac glycosides in both hot water and hot methanolic extracts. The heavy metals such as Pb (0.5 mg/kg) were detected in *P. niruri* grown in Sri Lanka. The TLC fingerprint profile of the methanolic extract of *P. niruri* consists of 8 and 9 prominent spots at 254 nm and 366 nm respectively. Many studies suggest that flavonoids possess antioxidative, hepatoprotective, anti-inflammatory, and anticancer activities, coronary heart disease preventions, antiviral, antiallergic, antithrombotic, antispasmodic, and immunomodulatory capacities. *P. niruri* potentially being an important drug lead, it should be reiterated that novel therapeutic agents and new chemical entities should provide direction for future research in the development of new Phyllanthus-based drugs.

Keywords: *P. niruri*; Standardization; Chemicals analysis; Pharmacological activities; Ayurveda