STUDY THE HEPATOPROTECTIVE ACTIVITY OF SELECTIVE PLANTS WITH SPECIAL REFERENCE OF THEIR PHYTOCHEMICAL CONSTITUENTS

K.B.W.I.G. Abeywardhane*, S.K.M.K. Herapathdeniya and D.M. Nallaperuma

Faculty of Indigenous Medicine, University of Colombo, Sri Lanka.
*1803648@iim.stu.cmb.ac.lk

Liver disorders are now common in the society which are mostly engaged with excessive alcohol consumption, viral infections like hepatitis and inherited metabolic disorders as well. Most of the time the natural herbs have the capacity of liver protection. The present study was conducted to compare the hepatoprotective action of four selected plants viz; *Phyllanthus debilis* J.G. Klein ex Willd*, Eclipta prostrata* (L)L*, Osbeckia octandra* (L)DC and *Cyanthillium cinereum* (L)H. Rob by conducting a comprehensive study on physico-chemical, qualitative and quantitative phytochemical analysis and chromatographical analyses. The ethanol extract of four plants was obtained for qualitative phytochemical and chromatographical analyses. Physico-chemical analyses showed highest total ash (11.675±0.1%), acid-insoluble ash (0.9±0.15%), water-soluble ash (6.15±0.25%) and water- soluble extractive value (66.4±0.3%) in *Eclipta prostrata* and highest ethanol-soluble extractive value (94.8±0.3%) and moisture content (18.18±0.2%) in *Osbeckia octandra. Eclipta prostrata* stands out for its mineral content, high alkaloid (3.52±0.2g) and tannin (70.8±0.15mg TAE/g) levels, while *Osbeckia octandra* is notable for its flavonoid (16.73±0.2g) and phenol (142±0.3mg GAE/g) richness. Chromatographical analyses showed similar Rf values and peaks in *Osbeckia octandra* and *Cyanthillium cinereum* and also similar in *Phyllanthus debilis and Eclipta prostrata*. Previous studies indicated polyphenols, flavonoids, tannins and alkaloids are effective in hepatoprotective action. So, these four selected plants have the potential of hepatoprotection. But In conclusion, the hepatoprotective activity was highly traced in *Osbeckia octandra* and secondly in *Eclipta prostrata* than other two plants. Future research could focus on development of plant-based formulation for hepatoprotective therapies based on these findings.

Keywords: Hepatoprotective, Phytochemicals, Quantitative, Physico-chemical, Chromatographical