

## **A preliminary study on the evaluation of hypocholesterolemic activity of some *Phyllanthus* species**

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Treating hypercholesterolemia with active principles of herbal origin with minimum side effects is increasing. *Phyllanthus* species are rich in active ingredients and many studies report their hypercholesterolemic activity, and less work is reported on Sri Lankan species. Aim of the present study was to screen the hypocholesterolemic activity of crude methanolic extracts of *P. polyphyllus* (PP-CME), *P. maderaspatensis* (PM-CME) and *P. amarus* (PA-CME) using male Wistar albino rats (*Mus norvegicus albinus*). Induction and maintenance of hypercholesterolemia was achieved by feeding high cholesterol diet throughout experiment. Rats (n=12) were randomly separated to positive control and three treatment groups. PP-CME, PM-CME and PA-CME were administered orally at the dosage of 2000 mg/kg b.w. once a day for fourteen days while distilled water was given to the negative control group. Blood parameters were evaluated at 0<sup>th</sup>, 7<sup>th</sup> and 14<sup>th</sup> days after treatment (DAT). Mean and standard deviation of treatments were calculated. Mean differences between the positive control and treated groups were determined using one-way ANOVA. The acceptable level of significance was  $p \leq 0.05$ .

PM-CME and PA-CME significantly reduced total cholesterol by 7<sup>th</sup> and 14<sup>th</sup> DAT ( $p \leq 0.05$ ) meanwhile effect of PP-CME was insignificant ( $p > 0.05$ ). Three extracts significantly reduced LDL-cholesterol by 7<sup>th</sup> and 14<sup>th</sup> DAT. PA-CME and PP-CME reduced triglyceride levels significantly at 14<sup>th</sup> DAT while PM-CME was significant at 7<sup>th</sup> and 14<sup>th</sup> DAT. Significant increases of HDL cholesterol were observed with PM-CME and PA-CME on 7<sup>th</sup> and 14<sup>th</sup> DAT while effect of PP-CME was significant at 7<sup>th</sup> DAT. Blood glucose level in treated rats was less significantly vary throughout experiment. Except PP-CME, PM-CME and PA-CME exhibited a hypocholesterolemic activity in Wistar albino rats. Further studies are required to confirm the dose-dependent response of positive treatments.

**Keywords:** Cholesterol, Wistar albino rats, *Phyllanthus* species

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