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**Cytotoxicity of Indigenous Medicinal Plants Kothala Himbutu, Kottamalli and Polpala on The Vero Kidney Cell Line; In-Vitro Study Using MTT Assay**

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**Abstract**

Despite significant breakthroughs in the pharmaceutical industry, there's a growing interest in natural medicines across the world. Many individuals around the world who suffer from various illnesses employ a variety of native herbal plants to have a therapeutic effect. The use of these plants may have negative consequences on the health of patients, especially on the kidneys. The present study was focused on investigating the nephrotoxic effects of indigenous medicinal plants; Kothala Himbutu, Kottamalli and Polpala on the Vero kidney cell line. Four dilution series in each (5.0, 10.0, 15.0, and 20.0 g, of Kottamalli; 1.0, 2.0, 3.0, and 4.0 g of Kothala Himbutu; 3.0, 6.0, 9.0, and 12.0 g of Polpala in 125 ml of Mill-Q water) were exposed to Vero; monkey kidney epithelial cells ( $5 \times 10^3$  cells/well). Cell viability was measured using MTT assay and the cell viability percentage and the  $CC_{50}$  values was calculated. In the MTT assay the cell viability percentages in the cells exposed to Kottamalli, Kothala Himbutu and Polpala were ranged from 72.06 to 98.73%, 79.04 to 98.00%, and 50.80 to 95.00% respectively. Significantly lower cell viability percentages were recorded in the cells exposed to positive control than in the cells exposed to the plant extracts in the MTT assay ( $p < 0.05$ ). Hence, the results of the present study indicated the water extracts of the Kottamalli, Kothala Himbutu, and Polpala plants do not reduce the cell viability and do not cause nephrotoxicity directly. However, further studies are needed to confirm the nephrotoxic effects of medicinal plants.

**Keywords:** Nephrotoxic effects, Indigenous medicinal plants, Vero kidney cells, cell viability, plant extracts