

ID 20

### Anti-cancer effect of Katupila (*Flueggea leucopyrus*) plant extract

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#### Abstract

Katupila (*Flueggea leucopyrus*) plants, which are utilized in indigenous medicine in Sri Lanka, are thought to have significant anti-carcinogenic properties. As a result, the current study was designed to investigate the influence of Katupila on cervical cancer prevention. The plant materials were subjected to methanol and water extractions and freeze dried. A set of serial dilutions was prepared from each extract at concentrations of 1:1 1:2, 1:3, 1:4, 1:5, 1:6, 1:7 and 1:8 (v/v; water: extracts). A 10 µl drop of dilutions were added to a normal Vero cell line, which were already incubated with 90 µl of culture medium until sub confluency, and further incubated for 24 h. 3-(4,5-dimethylthiazole-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay was performed to detect the toxicity, a non-toxic dose selected from each plant material were 1:6, 1:7 for Katupila methanol and Katupila water extracts, respectively. The selected doses were added to sub confluency, HeLa cell cervical carcinoma cell line and incubated for 24 hours followed by MTT assay. All the plant materials used had significant ( $P<0.05$ ) anti-proliferative effect on cervical carcinogenesis in vitro. Moreover, Katupila leaves extract had significantly higher ( $P<0.05$ ) efficiency than other parts of plant materials. The study concluded that Katupila leaves had an anti-proliferative effect on cervical carcinogenesis in vitro, with Katupila leaves being significantly more effective. As a result, the plant elements analyzed can be effectively used to create an organic anti-cancer medication. Further studies must be conducted in order to find an anti-cancer medicine derived from local medicinal plants.

**Keywords:** Anti-carcinogenic, Cell line, Cervical, Katupila, MTT assay

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