

Estrogenic activity of *Elaeis guineensis* leaf.

ABSTRACT

To assess the estrogenic activities of Oil Palm Fronds (*Elaeis guineensis*) extracts a vaginal cytology assay in normal and ovariectomized rats were used. The alcoholic extract of *Elaeis guineensis* (OPLME) was administered orally to adult normal cycling and ovariectomized Sprague/Dawley rats. Bilaterally ovariectomized rats were divided into four groups (n = 8) receiving different treatments, consisting of vehicle, 150 and 300 mg/kg body weight OPLME and Premarin (conjugated estrogens) at a dose of 2.5 mg/kg body weight. Estrogenic activity was assessed by taking percentage vaginal cornification and uterine wet weight as parameters of assessment. The OPLME resulted in an irregular estrous cycle with lengthened estrus in dose dependent manner. Restoration of normal estrous cycles after withdrawal of treatment indicates the reversible effect of alcoholic extract in normal rats. OPLME administration produced statistically significant ($P < 0.001$), 2.54-fold increase in circulating 17β -estradiol levels. OPLME showed a significant increase in percentage vaginal cornification, and uterine wet weight ($P < 0.001$), compared to the control in a dose dependent manner in ovariectomized rat. This estrogenic property of OPLME may be a possible explanation for the OPLME effects on the blood lipid profile. The estrogenic activity shown by OPLME can be attributed to the presence of flavonoids and phenolic compounds.

Keyword: Oil palm; Polyphenols; Vaginal cytology assay; Ovariectomized rats.