

THE POTENTIAL OF IMPERATA CYLINDRICA L EXTRACT ON CALCIUM CALCULUS SOLUBILITY (IN VITRO RESEARCH)

ABSTRACT

Objectives: The aim of this study is to determine the potency of *Imperata cylindrica L* extract on calcium calculus solubility. **Method:** This research is a laboratory experimental study with a post test only control group design. The study was conducted using four treatment groups using the simple random sampling technique. Group 1 as the control group which was soaked with distilled water, group 2 as the treatment group I which was soaked with 1% concentration of reed extract, group 3 as the treatment group II which was soaked with 3% concentration of reed extract, and group 4 as the treatment group III soaked with 5% concentration of reed extract. The results of immersion were measured using a UV-Vis spectrophotometer at a wavelength of 499 nm. The data were then analyzed using SPSS with the Shapiro-Wilk normality test and the Levene's test for homogeneity. The data were normally distributed and homogeneous, then the one way ANOVA parametric test was carried out, followed by the Least Significant Difference (LSD) post hoc test. **Result:** The solubility levels of calcium calculus treated with reed extract with concentrations of 1%, 3%, and 5% respectively had an average of 14,572 ppm, 19,282 ppm, and 19,977 ppm. The results showed that there were significant differences between groups treatment with the results of the one way ANOVA parametric test obtained p value <0.05. **Conclusion:** The extract of *Imperata cylindrica L* has the potential to dissolve calcium calculus.

Keywords: *Calculus (dental), Imperata (Imperata cylindrica L), Calcium solubility*