

## ABSTRACT

### THE EFFECT OF THE ROOT OF *SEREH* (*Cymbopogon nardus*) INFUSION BLOOD POTASSIUM PRODUCTION AND URINE PRODUCTION IN MALE WHITE RATS (WISTAR STRAIN *Rattus norvegicus*). A LABORATORY EXPERIMENTAL STUDY

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The infusion of the root of *sereh* (*Cymbopogon nardus*), a traditional plant, has been known to have a function as alternative diuretics. However, it has not been proven experimentally. The objective of this study was to prove the effect of *sereh* root infusion on the increase of Urinee production and blood potassium in rats.

This study used separate sample pre-test post-test control group design, involving 28 randomly-selected male *Rattus norvegicus*, aged 2-3 months, with bodyweight of 150-200 grams. Before treatment, the rats were subjected to bodyweight measurement and randomly divided into four groups, each comprising 7 rats. Group 1 was pre-test group, which received no treatment. Group 2 served as negative control group, receiving 2 ml distilled water per oral. Group 3 was positive control group, receiving distilled water and lasix of 0.72 mg. Group 4 was the group receiving 20% distilled water and *sereh* root.

Results showed that the infusion of *sereh* (*Cymbopogon nardus*) root was able to increase rats Urinee production. In general, the result of analysis showed that pre-test group (K0) had Urinee production of  $4.885 \pm 2.8321$  cc/24 hours, blood potassium  $4.0857 \pm 0.3185$  Mmol/L, and kaliuresis  $54.1714 \pm 21.4948$  Mmol/L. Distilled water group (K1) had Urinee production of  $7.7285 \pm 3.05024$  cc/24 hours, blood potassium  $4.8286 \pm 0.3352$  Mmol/L, and kaliuresis  $318.8286 \pm 101.8018$  Mmol/L. The group receiving distilled water and lasix of 0.72 mg/kg bw (K2) had Urinee production of  $7.685 \pm 3.8293$  cc/24 hours, blood potassium  $4.3571 \pm 0.3599$  Mmol/L and kaliuresis  $315.7571 \pm 110.6760$  Mmol/L. Group receiving distilled water and the infusion of 20% *sereh* root (K3) had Urinee production of  $8.5000 \pm 1.035$  cc/24 hours, blood potassium of  $4.7857 \pm 0.3848$  Mmol/L, and kaliuresis  $243.1429 \pm 70.7855$  Mmol/L. It was apparent that the infusion of *sereh* root was able to increase Urinee production, blood potassium, and kaliuresis.

Result showed that there are not significant difference ( $p > 0.05$ ) of Urinee production, blood potassium was significant difference ( $p < 0.05$ ) and kaliuresis was not significant difference. The result of LSD test revealed that the infusion of *sereh* was not able to increase Urinee production and increase blood potassium and kaliuresis.

**Keywords:** root of *sereh* (*Cymbopogon nardus*), increased Urinee production, blood potassium, kaliuresis