

***Effect of Giving Boiled Secang Wood Combined with Lemon Juice and Stevia
Sugar on 2-Hour Postprandial Blood Sugar Levels
in Wistar Rats with Diabetes Mellitus***

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ABSTRACT

Diabetes mellitus (DM) is a metabolic disease characterized by high blood sugar levels, or hyperglycemia, which occurs due to impaired insulin sensitivity, the body's response to insulin, or both. Flavonoids are known to increase insulin sensitivity. Some natural ingredients containing flavonoids are sappanwood and lemon juice. The purpose of this study was to determine the effect of giving boiled sappanwood combined with lemon juice and stevia sugar on 2-hour postprandial blood sugar levels in diabetic Wistar rats. This type of study was a true experimental study with a pre-post test design using a control group. The sample consisted of 24 Wistar rats weighing 200-250 grams and aged 2-3 months. The rats were divided into three groups: a negative control group (K-), a positive control group (K+), and a treatment group (P). The positive control group (K+) and the treatment group (P) were induced by streptozotocin at a dose of 35 mg/kg rat body weight. The dose of boiled sappanwood combined with lemon juice and stevia sugar in the treatment group (P) was 3.2 ml/rat/day for 14 days. There was a significant difference in 2-hour post-meal blood glucose levels between the pre- and post-meal groups ($p < 0.01$), there was no significant difference in 2-hour post-meal blood glucose levels between the pre- and post-meal groups ($p > 0.05$), and there was a difference in 2-hour post-meal blood glucose levels between the pre- and post-meal treatment groups ($p < 0.05$). Based on these results, it was concluded that the administration of boiled sappanwood combined with lemon juice and stevia sugar had no effect on 2-hour post-meal blood glucose levels in diabetic Wistar rats.

Keywords : *diabetes mellitus, 2-hour postprandial blood sugar levels, flavonoids*