

Reaffirming the Critical Role of Transformative Research and Knowledge Production in the Age of Post-Truth



In Vivo Anti-inflammatory Activity of Coconut (*Cocos nucifera*) Shell Liquid Smoke (CSLS) for Hepatic Injury in Sprague-Dawley Rats

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Abstract: Hepatic injury is an infection and virus-induced inflammation of the liver that can result in numerous medical conditions. As a response, this study utilizes an abundant resource found in the Philippines which is Coconut (*Cocos nucifera*), specifically, the coconuts' shells, which have phenolic compounds that are essential for the suppression of inflammation. These Coconut shells undergo pyrolysis and distillation to produce the Coconut shell liquid smoke (CSLS) which is a digestible aqueous solution. Its efficacy in intervening with hepatic injury was tested through In-vivo experimentation with Sprague Dawley rats. Twelve (n=12) rats are injected with 10 mg/kg of Cisplatin to induce hepatic injury and are then divided into 4 groups with their respective oral treatment: (1) three rats as the baseline group and given no treatment, (2) three rats as the negative control group and treated with 10 mg/kg Saline solution, (3) three rats as the positive control group and treated with 10 mg/kg Godex DS, and (4) three rats as the experimental group treated with 10 mg/kg CSLS. Another rat group (n=3) was used for the CSLS toxicity test. After monitoring, blood samples were collected for an SGPT test, which assessed the increase and decrease of ALT (alanine aminotransferase) levels. Using One-Way ANOVA, it resulted in a p-value of 0.02197, thus, the null hypothesis was rejected. Therefore, after understanding the results and findings, the study was able to conclude that Coconut Shell Liquid Smoke (CSLS) has an anti-inflammatory activity that can intervene in hepatic injury.

Keywords: hepatic injury; Coconut Shell Liquid Smoke (CSLS), Cisplatin; anti-inflammatory activity; Sprague-Dawley rats