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EVALUATION OF THE TOXIC EFFECTS *IN VITRO* AND *IN VIVO* OF ETHANOLIC EXTRACT OF PASSIFLORA FOETIDA LEAVES

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ABSTRACT

BACKGROUND: The plant *Passiflora foetida,* commonly referred to as the "stinking passionflower," is extensively utilized in numerous cultural practices due to its documented therapeutic properties, including antioxidant, anti-inflammatory, anxiolytic, analgesic, and hepatoprotective effects. Research has revealed the presence of beneficial bioactive compounds within this plant, notably flavonoids, alkaloids, tannins, and steroids.However, further research is essential to assess its potential hepatic and renal toxicity to ensure safe usage. **OBJECTIVES:** This study aimed to assess the toxicological effects of the crude ethanolic extract derived from *Passiflora foetida* leaves through both in vitro cellular exposure and in vivo assessments, including hematological, biochemical, and histopathological analyses conducted on treated animals and compared to control groups within acute and subacute toxicity models. **METHODS:** The study, approved by the CEUA and registered in SisGen under code ACEAFDE, utilized ethanolic extract from *Passiflora foetida* leaves collected in the Caatinga biome. The research investigated the toxic effects of the crude ethanolic extract from *Passiflora foetida* leaves on 60 mice, divided into six groups, of which four groups received varying doses of the extract—300 mg/kg, 600 mg/kg, and 900 mg/kg—while the remaining two groups received 0.9% saline solution. Conducted at UNCISAL, the study assessed in vitro and in vivo toxicity, as well as hematological and biochemical parameters in the animals, in accordance with the methodology established by the Organization for Economic Co-operation and Development (OECD). **RESULTS/DISCUSSION:** During the subacute phase of the study, three mice died, though none exhibited pathological change. Macroscopic and histopathological examinations indicated that administration of *Passiflora foetida* extract at varying doses did not result in significant changes in the analyzed organs, specifically the liver and kidneys, specifically the liver and kidneys, regardless of sex. Comparative assessments revealed no statistically significant differences in organ weights or sizes between the treated groups and the negative controls. The liver, being the largest organ observed, showed no signs of hepatomegaly, even with elevated extract dosages. Furthermore, histopathological analysis revealed no pathological, inflammatory, or infectious processes in the organs examined, demonstrating the hepatoprotective effects of the extract. These results substantiate the extract's safety profile and corroborate findings from previous studies, further highlighting its therapeutic potential, particularly its hepatoprotective properties, without inducing significant toxicity. **CONCLUSION**: In conclusion, the study found no significant impairments, as no alterations were evident. These results underscore the therapeutic potential of the extract, which exhibits a favorable safety profile.