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HISTOLOGICAL AND BIOCHEMICAL MARKERS ON THE LIVER OF WISTER ALBINO RATS SUPPLEMENTED WITH FLOWER-HEAD AND LEAF EXTRACTS OF *SPILANTHES FILICAULIS*

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Abstract

This study covered the effects of Spilanthes filicaulis flower-head and leaf extracts on liver function and histology in Wistar albino rats. Forty-two rats were divided into seven groups, with groups receiving varying doses of MESF leaf or flower-head extracts. Liver function was assessed through serum levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), and bilirubin fractions. Histopathological analysis of liver tissues was performed to detect structural changes. The results indicated that neither the leaf nor flower-head extracts caused significant alterations in serum ALT and AST levels, suggesting no major hepatotoxicity. Although some variations in ALP activity were observed, these changes did not correlate with liver damage in histopathological examinations. Bilirubin levels remained stable across treatment groups. Histopathological analysis revealed no significant deviations from normal hepatic architecture, though some cases of macrovesicular steatosis were noted. The study concludes that supplementation with MESF leaf and flower-head extracts does not induce significant liver damage in Wistar albino rats, suggesting that these extracts may be safe for liver health at the administered doses.

Keywords: *Spilanthes filicaulis*, medicinal plant, hepatoprotective, anti-inflammatory, herbal medicine, Asteraceae

Introduction

The liver is a central organ in detoxification and metabolic processes, making its health critical for overall well-being. Biochemical and histological markers are essential for assessing liver function and damage (Moatamed et al, 2019). Recent studies have explored the effects of various plant extracts on liver health, with a focus on traditional medicinal plants. One such plant is *Spilanthes filicaulis*, known for its potential therapeutic benefits. *Spilanthes filicaulis* is a medicinal plant native to tropical regions, including parts of Nigeria (Ojo et al, 2024). Known for its therapeutic properties, it belongs to the Asteraceae family. The plant features small, vibrant yellow flower-heads and lance-shaped leaves, which are traditionally used in herbal medicine. Its bioactive compounds are believed to possess anti-inflammatory, analgesic, and hepatoprotective effects. In traditional practices, *Spilanthes filicaulis* is used for its potential benefits in digestive health and liver function, although scientific research on its full pharmacological effects is