

Abstract.

Diabetes has become a critical challenge to the global health concerns. Cytotoxicity and development of resistance against the available drugs for the treatment of diabetes has shifted the focus of world's scientific research from synthetic to herbal medications. In this regard, present study was conducted to investigate the possible antihyperglycemic potential of *Dryopteris stewartii* using model animal (Swiss albino mice). To evaluate the any possible toxic effect of plant, acute oral toxicity test was performed. The results revealed the safe nature of *Dryopteris stewartii*. For this purpose, aqueous and ethanolic extracts (500mg/kg) were prepared and administered to the experimental groups containing 6-10 mice each. To compare the anti-diabetic effects of plant extracts positive, negative and normal control were carried out simultaneously. Findings of the anti-diabetic study revealed that ethanolic extract has higher anti-diabetic potentials than aqueous extract. After the completion of the experiment, histopathological analysis of liver and pancreas of all experimental groups revealed normal cell architecture with no morphological abnormalities. These results suggested the possible use of *Dryopteris stewartii* as a anti-diabetic remedy in near future. However, these recommendations are conditioned to deep mechanistic studies.