

Abstract :

As of right now, neither microbial invasion nor antibiotic resistance nor environmental pollutants can effectively cure liver inflammation due to advances in medical research and technology. Although numerous herbal plants have been reported for their efficacies in liver protection, *Andrographis paniculata* is the most widely used herb for hepatoprotection, particularly in Ayurveda and traditional Chinese medicine. [1]

In Asian nations, *andrographis paniculata* is commonly utilized in traditional medicine. Traditional Chinese medicine has categorized it as a safe and non-toxic medication. The primary focus of the inquiry into *A. paniculata*'s biological activity is still on the crude extract and separation of andrographolide, the plant's primary active ingredient, and its derivatives. But it has been demonstrated that using andrographolide alone might worsen side effects. This emphasizes how crucial it is to build a portion of [2]. The anti-inflammatory activity of *Andrographis paniculata* (Acanthaceae), a traditional medicine widely used in Asia, is commonly attributed to andrographolide, its main secondary metabolite. Commercial *A. paniculata* extracts are standardised to andrographolide content. We undertook the present study to investigate 1) how selective enrichment of andrographolide in commercial *A. paniculata* extracts affects the variability of non-standardised phytochemical components and 2) if variability in the non-standardised components of the extract affects the pharmacological activity of andrographolide itself.[3]. Here in this project *A. paniculata* was extracted in two solvents using Ultrasonic extraction and its anti-inflammatory activities was observed by invitro and insilico methods. Both methods indicated positive anti-inflammatory activity with IC50 value of 0.284 mg/ml. The predicted oral toxicity was low. A set of cream formulation was prepared using different concentration of the extract and it was found that all of them were stable and one of the formulations had high spread ability and neutral pH. Hence a successful anti-inflammatory strategy can be designed using this formulation [4]