Aim

&

Objective

Chapter 3

Aim and Objective

3.1 Rational

The search for novel anticoagulants is critical due to the limitations and side effects of current therapies. Indigenous plants, with their rich history of medicinal use, offer a promising source of new anticoagulant agents. This study aims to screen indigenous plants for anticoagulant activity, leveraging traditional knowledge and modern scientific methods. By identifying plants with significant anticoagulant effects, the study will isolate and characterize the active constituents responsible for these effects using advanced analytical techniques. This approach not only validates traditional uses but also uncovers novel bioactive compounds that could lead to safer and more effective anticoagulant therapies. Ultimately, this research could provide new therapeutic options and promote the sustainable use of indigenous plant resources.

3.2 Aim

The Present study aimed to isolate and characterize active chemical constituents present in medicinal plants considered to be anticoagulant activity.

3.3 Objective

- To perform systematic extraction of active chemical constituents from selected medicinal plants using a range of solvents (polar to non-polar) to ensure the efficient recovery of compounds with potential anticoagulant properties.
- To conduct qualitative and quantitative phytochemical analyses of the extracts and fractions to identify and profile the major classes of secondary metabolites by LCMS and GCMS, such as alkaloids, flavonoids, terpenoids, and phenolics, which may contribute to anticoagulant activity.
- To evaluate the anticoagulant activity of both crude extracts and fractions using *in-vitro* and in-vivo assays such as prothrombin time (PT), activated partial thromboplastin time (aPTT), and thrombin time (TT) to identify the most potent anticoagulant agents.

- To isolate and purify individual chemical constituents from fractions using advanced chromatographic techniques such as high-performance thin-layer chromatography (HPTLC), and preparative thin-layer chromatography (TLC).
- To determine the chemical structures of the isolated compounds using sophisticated spectroscopic methods, including mass spectrometry (MS), infrared (IR) spectroscopy.