AIMS & OBJECTIVES

The spectacular rise of the pharmaceutical industry has tremendous impact on disease management. Today herbal medicines are coming back into prominence because of decreasing efficacy of the modern medicines as well as drug resistance being major problems. Moreover, many synthetic drugs are also known to cause serious side effects. The use of plants and its original natural products is beneficial in protecting against various diseases, as they are less toxic, or practically nontoxic, relative to synthetic compounds at their optimum protective doses (Ganesh Chandra et al., 2003). Herbal medicines often complement the conventional modern treatments providing safe, well-tolerated remedies for many chronic diseases like cancer, asthma, liver disorder, rheumatoid arthritis, diabetes, cardiovascular and neurological disorders. There is an urgent need to evaluate and to standardize the efficacy and measures, so as to ensure the supply of medicinal plant materials with good quality. The herbal drug treatment is safe and effective with the tremendous increase in the global use of herbal medicine and medicinal plants. Therefore, screening of natural products presents a major avenue for the discovery of new pharmacological products. Evaluation of the bioactive constituents, biochemical and pharmacological properties of plants have always been a challenging task for the researchers. Several plants have been known to relieve various diseases in traditional system of Indian medicine such as Ayurveda and Siddha.

Therefore, it is important to evaluate and characterize various plants and plant constituents against a number of diseases based on their traditional claims given in Ayurveda and Siddha. Out of that one such an endemic plant was *S. interrupta*. 
Based on the above facts, the following specific objectives were selected for this research:

- Selection and identification of *Sophora interrupta* plant species and extraction for phytochemical screening and qualitative analysis of secondary metabolites from the different selected solvents like methanol, ethanolic and aqueous leaf extracts.
- To evaluate *in vitro* free radical scavenging and antioxidant properties of extracts using various *in vitro* methods.
- Assessment of *in vitro* anticancer property of leaf extract of *S. interrupta* leaves against MCF-7 breast cancer cell lines.
- To estimate the chemotherapeutic efficacy of aqueous extract *S. interrupta* leaves against cadmium nitrate induced toxicity in *Wistar* strain albino rats.