3. AIM OF PRESENT WORK

Population rise, inadequate supply of drugs, prohibitive cost of treatments, side effects of several allopathic drugs and development of resistance to currently used drugs for infectious diseases have led to increased emphasis on the use of plant materials as a source of medicines for a wide variety of human ailments. Global estimates indicate that 80% of about 4 billion population can not afford the products of the Western Pharmaceutical Industry and have to rely upon the use of traditional medicines which are mainly derived from plant material. In many of the developing countries the use of plant drugs is increasing because modern life saving drugs are beyond the reach of three quarters of the third world’s population although many such countries spend 40-50% of their total wealth on drugs and health care. As a part of the strategy to reduce the financial burden on developing countries, it is obvious that an increased use of plant drugs will be followed in the future.

The use of plants for healing purposes predates recorded history and forms the origin of much of modern medicine. Many conventional drugs originate from plant sources: a century ago, most of the few effective drugs were plant-based. Examples include aspirin (from willow bark), digoxin (from foxglove), quinine (from cinchona bark), and morphine (from the opium poppy). The development of drugs from plants continues, with research engaged in large-scale pharmacologic screening of herbs. Although there is no cure for rheumatoid arthritis, the disease can be controlled in most people. Early, aggressive therapy, soon after the initial diagnosis, is optimally targeted to stop or slow down inflammation in the joints can prevent or reduce symptoms, prevent or reduce joint destruction and deformity, and prevent or lessen disability and other complications. Today there is great interest in new anti-inflammatory drugs as toxicological doubts have arisen concerning standard drugs but also as it has become apparent that the therapeutic potential of novel anti-inflammatory drugs goes well beyond the treatment of recognized chronic inflammatory diseases.
Inflammation is now seen as a primary process in arthritis but also as a key pathophysiological factor in many common modern diseases (cardiovascular disease, diabetes, osteoporosis, neurodegenerative diseases, dementia and Alzheimer’s).

Now-a-days, the synthetic drugs are although dominating the market but the element of toxicity that these drugs entail, cannot be ruled out. Some of the common side effects of anti-inflammatory drugs are nausea, vomiting, gastric disorders, rashes, nervous disorders, emotional disturbances, blood dyscrasia, bleeding tendency, metabolic disorders and many more even cancers and death. Therefore study of plant species that are traditionally used as pain killers or anti-inflammatory or anti-rheumatic should still be seen as a logical and fruitful research strategy, in the search of anti-rheumatic drugs.

Literature survey of leaves of *Rivea hypocrateriformis* choisy and aerial parts of *Ipomoea eriocarpa* R.Br. revealed that traditionally these are used in rheumatism. Further, both of their respective parts were investigated for preliminary phytochemical screening and reported the presence of phytosterols, iso-coumarins, alkaloids, triterpenoids, flavanoids, resins and tannins.

However, literature survey of both drugs revealed that pharmacological and phytochemical investigations have not yet been systematically evaluated. Therefore, present study was undertaken to evaluate and investigate more details in pharmacognostical, phytochemical and pharmacological properties of these two plants.
3.1 Plan of work

The present studies were proposed with the purpose, first to develop the method for standardization of selected plant materials and thereby to provide a means for true identification and secondly to evaluate biological activity mentioned in traditional literature in order to justify their role in therapeutics.

The detailed steps to undertake were planned as follows:

- Collection and identification of Plant materials
- Preparation of extracts and preliminary phytochemical investigation including TLC
- Extraction, isolation & purification of phytoconstituents
- HPTLC studies of purified extracts/fractions
- Characterization of isolated compounds
- Pharmacological investigations of plant extracts using various animal models