CHAPTER 2 BACKGROUND & PURPOSE

2.1 BACKGROUND
Ayurvedic medicine is the oldest medical system in the world with written records in Sanskrit stretching back for at least 5000 years. It originates from the India and has also influence many other countries on the globe. The Ayurvedic Medicine and Science of diagnosis since ages are used in India and till date. Even in such a modern and high tech era there are certain diseases that cannot be treated in other medicine practices, to quote Renal stones, Gall stones, Jaundice and Liver related ailments. India is the largest source of Medicinal plants, a large no of plants with medicinal property are reported and yet still there are to be reported.

Allopathic Medicines are used worldwide but every medicine is related with an unwanted effect. These drugs are used for treating various ailments; every therapy at the end comes out with unwanted symptoms and effects which again need medical attention.

2.2 STATEMENT OF PURPOSE

Parkinsonia acculeata Linn has been reported to have Phytochemical and Pharmacological activity, as follows
1. Antibacterial activity of the tested organisms (Kamba and Hassan., 2010).
2. Antidiabetic properties in leaves and flowers (Leite et al., 2010). (Mruthunjaya and Hukkeri., 2008).
4. Amoebicidal activity (Kamal and Mathur., 2007).
5. Hepatoprotective activity in 50% ethanol leaves extract(Hassan et al., 2008).
6. Antispermatogenic activity (Gupta et al., 2007).
7. Antimalerial activity (Ramalhete et al., 2008).

But till date in literature the reports of Parkinsonia acculeata Linn. is empiric. Thus extensive research work is required to significantly document known and yet unknown Pharmacological effects of various extracts of Parkinsonia acculeata Linn. leaves.

There is a wide scope for investigation of more activities from the compound that can be isolated from the plant. Also since it was reported that the species can grow in presence of heavy metals, P. aculeate (Shaukat et al., 1999) can be cultivated in polluted areas where it
can resist heavy metals and toxicities. The Plant can be utilized for treating various ailments effectively.

2.3 Objective:
The study was aimed to investigate the Phytochemical and Pharmacological properties of *Parkinsonia acculeata* Linn.

1. To investigate chemical constituents (Preliminary test) in various extracts.
2. The extracts separation using thin layer chromatography, separation by Column Chromatography.
3. Mass and NMR studies of Pet Ether extract.
4. To explore the unreported potent activities of the plant like its Hepatoprotective activity with all extracts with a slight modification in method.
5. Antidiabetic and neuroprotective activity (Diabetic Neuropathy).
6. *Parkinsonia acculeata* Linn. is reported to have abortifacient (Misorpril like) activity this inspired to explore for its anti-ulcer activity.
7. During the pilot study it was noted that *Parkinsonia acculeata* Linn. induced psychosis in animals, this was taken for screening the *Parkinsonia acculeata* Linn for Parkinson’s disease.
8. *Parkinsonia acculeata* Linn. has been reported to possess Trypsin Inhibitor a key factor in inhibiting inflammation (Ortega Neibles *et al.*, 1996) paved the way to screen for its anti-inflammatory activity.
2.4 PLAN OF WORK

SECTION I

1. Review of Literature
2. Procurement of drugs, chemicals and animals
3. Approval from IEC

SECTION II

1. Collection of Plant
2. Hot Extraction by Soxhlet
3. Cold Extraction by Maceration
4. Preservation of extracts

SECTION III

Phytochemical Studies

1. Thin layer Chromatography
2. Column Chromatography
3. Collection of effluents
4. Analytical Studies- Mass, NMR

SECTION IV

1. Formulation of extracts
2. Toxicity Studies
3. In vivo Hepatoprotective Activity
CHAPTER 2 BACKGROUND & PURPOSE

a. Biochemical Studies

b. Histopathological Studies

4. In vivo Antiulcer Activity

a. Photography for Pixels

b. Development of software for Pixel Method

5. In vivo Ant diabetic Activity

a. Biochemical studies

b. Behavioral studies

6. In vivo anti- Parkinson study

a. Behavioral studies

7. Anti-inflammatory Activity

SECTION V

Statistical data analysis, interpretation of Results and Discussion.