CHAPTER - II
OBJECTIVES

Recently, there has been an increasing interest in the use of medicinal plants. Ethnobotanical information indicates that more than 800 plants are used as traditional remedies for the treatment of diabetes (Eidi et al., 2005). To date, a few of these medicinal plants have received scientific or medical scrutiny, despite the fact that the World Health Organization has encouraged and recommended that traditional treatment for diabetes warrant further (Lemhadri, et al., 2006), evaluation (WHO, 1980). Currently, there is a great interest in finding antioxidants from natural sources to minimize oxidative damage to cells. Oxidative damage is caused by free radicals and reactive oxygen species, mostly generated endogenously. The indigenous people in India used the *N. arbortristis* better leaves in Ayurveda for the treatment of diabetes treatment (Chetty, et al., 2008) and *C. gigantea, Swarnabhasma* has been used by Ayurvedic physicians diabetes mellitus, (Mitra, et al., 2002)

The main objective of the present investigation was to evaluate the *N. arbortristis* and *C. gigantea* leaves and flowers parts for its anti-diabetic and free radical scavenging activities.

Objectives

Pharmacognostic Investigation

Collection and Authentication of plants

Extraction of the dried powder of the plants with solvents

Qualitative chemical analysis

Pharmacological Investigation

1. Hypoglycemic effect of *N. arbortristis* leaves and flowers in rat
2. Exogenous Insulin potentiation action of *N. arbortristis* leaves and flowers extract in rats

3. *N. arbortristis* leaves and flowers extracts glucose tolerance test in rats

4. Evaluation of anti-diabetic and free radical scavenging activity of *N. arbortristis* leaves and flowers in rats

5. High fructose diet induced insulin resistance in rats

6. Hypoglycemic effect of *C. gigantea* leaves and flowers in rat

7. Potentiation action of exogenous Insulin action of *C. gigantea* leaves and flower in rats

8. Glucose tolerance test *C. gigantea* leaves and flower in rats

9. Evaluation of anti-diabetic and free radical scavenging activity of *C. gigantea* leaves and flowers in rats

10. High fructose diet induced insulin resistance in rats