3. AIM AND OBJECTIVE

Since pre-historic days attempts are being made to find out suitable drugs from natural sources for treatment of different diseases. The rational experience of folk medicine provides a valuable approach in the search for the development of new and useful therapeutic agents. The herbal drugs derived from plants possess various medicinal values. We, the human beings possess a huge wealth of medicinal plants which have been explored and validated for their therapeutic properties. Still there are so many plants whose medicinal properties are not yet published and lots of research works are needed to be carried out on such medicinal plants. Herbal medicines are in great demand in the developed as well as developing countries for primary healthcare because of their wide biological activities, higher safety margins and lesser costs. In India, the herbal drug market is about $ one billion and the export of plant based crude drugs is around $ 80 million. (Kamboj V.P., 2000)

The most important challenges faced by these formulations arise because of their lack of complete standardization. Herbal medicines are prepared from materials of plant origin which are prone to contamination, deterioration and variation in composition. Therefore, quality control of herbal medicines offers a host of problems. To solve this problem, first and foremost task is the selection of the right kind of plant material which is therapeutically efficacious. Fundamentally, a better approach would be the one in which some direct correlation of marker compounds is generated with respect to the biological activity of the extract for a particular therapeutic area or disease pattern. (Bhutani K.K., 2000)

The commonly used analytical methods like chromatography have narrow scope in the analysis of heterogeneous botanical extracts. Most often a desired biological response is due to not one, but a mixture of bioactive plant components and the relative proportions of single bioactive compound can vary from batch to batch, while the bioactivity still remains within tolerable limits. (Mclaughlin J.L., et al. 1998)

New trends are emerging in the standardization of herbal raw materials whereby it is carried out to reflect the total content of phytoconstituents like polyphenols which can
be correlated with biological activity like antioxidant activity which many times has a direct or indirect correlation to the pathophysiological disorders like liver toxicity, diabetes, cancer, inflammatory and age related disorders. With this aim, for the selection of medicinal plant for active herbal medicines, first there was undergone discussion with a tribal medical practitioner for the traditional and tribal uses of the plants. According to opinion of the local traditional practitioners from Nasik District, the chosen plant is used for the treatment of liver disorder. The plant therefore has been subjected to identification and then literature survey to confirm that the plant has not been completely investigated for its hepatoprotective activity.

From the basic view toward present study, the main aim is to find out new hepatoprotective and antioxidant herbal drugs from folklore medicinal plant which are potent and nontoxic. According to opinion of the local traditional practitioners of Nasik District and literature survey, the selected plant *Trichosanthus anguina* commonly known as “Padaval” in local area belongs to the family Cucurbitaceae is ethno medicinally useful in the treatment of jaundice. This plant having great medicinal value and it is used to treat various diseases and disorders in traditional practice. Traditional reports suggest that the different parts of the plant having medicinal value in the therapeutics. The literature review of the selected plant showing ethno medicinal uses as well as preliminary pharmacognostic, phytochemical and pharmacological studies made on this plant.

The present study is undertaken to explore and validate the pharmacognostical studies, phytochemical properties, pharmacological actions and toxicological effects of roots of *Trichosanthus anguina* with special reference to its hepatoprotective and antioxidant property.

Therefore, the objectives of the present study are:

- To carry out the pharmacognostic study of this plant.
- To carry out the phytochemical study of this plant.
- To explore the plant material for their pharmacological properties especially for hepatoprotective and antioxidant property.
- To evaluate the plant for its toxicological properties.
The main aim and objective of this work is to find novel bioactive folklore medicinal plant for its hepatoprotective and antioxidant potential which are potent, nontoxic and having better acceptability in the therapeutics.