CHAPTER 1 INTRODUCTION

INTRODUCTION

The use of Ayurvedic medicine is growing tremendously, plant derived structurally active compounds are inspiring synthesis of effective newer compound. India is treasure house of thousands of medicinal plants. Thousands of plants with medicinal properties, many have been investigated and still there are to be investigated. The traditional medicine system, the Ayurveda describes the diagnosis of disease, use of plants in various diseases.

Modern medicine is extensively used around contributing a large portion in economy. The use of modern medication has its own merits and demerits. Pharmaceutical researchers are continuously struggling to minimize the unwanted effects of drugs and produce a safer drug. This concept of safer drugs has attracted many researcher towards natural compounds derived from plants. There is a need of the hour to explore natural source of treating diseases with out harming the vital organs. Neil Kaplowitz and others have reported extensive work on xenobiotics and mechanisms of liver damage by various and antibiotics and NSAIDS. As well as those materials used medicinally, clues to possible usefulness may be obtained from toxic chemicals that act by producing levels of compounds in the body that are considerably higher than normal. These compounds may counteract in some way the aspects of the disease (Neil Kaplowitz,. 2004).

Liver toxicity is the biggest medical problem arising from therapies given for various diseases. The list of such toxicants is later discussed in the text. The treatment of liver diseases is simply rest and diet control. There is no therapy as such that can reduce the inflammation, regenerate the damaged tissue and restore the normal function of Liver. On other hand there are number of herbal formulation marketed for various ailments of Liver and these preparation are investigated for their claims. Apart from this there are medicinal plants which are used in treatment of such ailments as folk medicines. These medicines are utilized for treatment or as a prophylactic or tonic. Where collected ethno pharmacological writings occur, a preventive aspect often cited as well as a curative one and this is frequently related to diet as much as more specifically medical treatment.

Diabetes is a major health problem worldwide; approximately 5% of the world’s population suffers from diabetes. The major merits of herbal medicines seem to be their efficacy, low
CHAPTER 1 INTRODUCTION

incidence of side effects and low cost. The majority of drugs used in diabetes are either hypoglycemics or antihyperglycemics, apart from lowering the blood glucose in diabetes these produce much complication which attract attention. Diabetic complications play key roles in health deterioration and mortality. None of the available treatments reduce this complication which includes cardiovascular, renal system and neuropathy. Hundreds of plant species have been used in folk medicine for their potential blood glucose lowering properties. Compounds such as flavonoids, terpenoids, alkaloids, glycosides have been investigated from plants and reported to lower blood glucose levels effectively.

Most commonly, neurodegenerative disease manifests in elderly people and in advanced industrialised and post-industrialised societies, where life expectancy is long, this group of conditions is a major cause of morbidity and of death, as well as imposing severe strains on the social welfare. Industrialization has contributed to these modern diseases. The manufacture of synthetic solvents, insectisides and pestisides and their use has become of the etiological factor of neuro degenerative diseases.

Although the common symptoms of neurodegenerative diseases, such as loss of memory and tremor, are recognised as a feature of increasing age in many medical systems, it is only recently that distinctive diseases have been identified and received much attention from mainstream medicine. This is most likely due to the fact that a short life expectancy precluded many surviving to an age where neurodegeneration was likely to affect a significant part of the population, although it has been argued that some of the factors apparently linked with an incidence of neurodegeneration, e.g. Parkinson’s Disease and Alzheimer’s Disease, were not so prevalent in unindustrialized generations and so the incidence would have been much lower. The treatment of such diseases is missing or empiric in traditional medicine. The current therapeutic approach is to produce symptomatic relief in the early stages of these diseases by correcting the deficiencies in the neurotransmitters by agonists or by inhibiting the metabolism of neurotransmitters.

The final approach embraces methods which have been used expansively in recent years in the screening of plants and other materials. It is based on the inhibition the process of ROS, and to limit the process of inflammation. Plants used in treating many ailments are based on these mechanisms, since inflammation is considered to be a causative factor of neurodegeneration.
CHAPTER 1 INTRODUCTION

The plants with active and potent activity are arousing interest in the scientific research in the Indian as well as the western Pharmaceuticals.

It can not be overlooked that there are many other traditional medicines consisting of unextracted plant material or crude extracts which have shown interesting activity in primary screening but which have not been investigated further. *Parkinsonia acculeata Linn* belongs to one of them where primary screening of Phytochemical and Pharmacological has been done, but it needs through investigation to be used as an alternative treatment in diseases.