CHAPTER - X

RESULT AND DISCUSSION

The use of plants particularly for their medicinal potential since antiquity, recorded in the Vedas which comprise the oldest literature of the world where the information has been presented in the form of hymns. The vedic information was modified and adopted by Sanskrit scholars that resulted the compilation of the samhitas, the Brahma granths and the Nighantus.

The use of plants for the existence of human being is as old a practice as the human race itself. The accumulation of knowledge of plant use however coevolved with human civilization through the experimental use of plants, generation after generation. The potential
saleable and ethnic use of plant in medicine through folklore as well in
the documented form of Rigveda and Ayurveda dates back to 3000-1000
BC and was in all probability the only means of curing/or protecting the
evolving human population from the diseases. The primitive people of
all aged had knowledge of medicinal plants, which they acquire as a
result of trail and error. This knowledge is still alive and several
hundred species are used in herbal remedies in indigenous system of
medicines, where the whole plant or plant part or its extraction is used.
Medicinal plants or part or its extraction is used. Medicinal plants are
widely used in household remedies and by practitioners of traditional
systems of medicines, particularly in the developing world where public
health care services are limited. According to the WHO estimate, about
80% of the population in the developing countries depends directly on
plants for its medicines. At the same time, interest in traditional and
contemporary and alternative medicine in industrialized countries has
grown rapidly. In India, about 2000 drugs used are of plant origin.

For a number of reasons bio-diversity and associated indigenous
knowledge are declining at a rapid rate. With population explosion,
urbanization, adverse effects of modern drugs, it has been realized that
ethno-botanical studies of different parts of the world particularly of the
areas which inhabit primitive societies or which are still inaccessible and remote where local populace largely depends on plant diversity, should be under taken on priority. Possibility of laying hands on such plant species that have potential for new drugs, (Kumar et al. 2009).

Herbal medicine, sometimes referred as herbalism or botanical medicine, is the use of herbs for their therapeutic value. An herb is a plant or plant part valued for its medicinal, aromatic or savory qualities. Herbs plant produced and contain a variety of chemical substances that act upon the body.

Herbal medicinal is the oldest form of the health care known to mankind. Herbs had been used by all culture throughout history. It was on integral part of development of modern civilization. Primitive men observed and appreciated the great diversity of plant available to him, much of the medicinal uses of plants seem to have been developed through the observation of wild animals, and by trial and error. They methodically collected information on herbs and developed well defined herbal pharmacopeias. In the 20\textsuperscript{th} century much of the pharmacopeias of scientific medicine was derived from the herbal lore of native people. Many plant commonly used today are of herbal origin. indeed, about 25\% of the prescriptions drugs dispensed in the united state contain at
least one active ingredient derived from plant material. Some are made of plant extracts, others are synthesized to mimic natural plant compounds. The world health organization (WHO) estimates that 4 billion of people, 80% of world population presently used herbal medicine for some aspect of primary health care. Herbal medicine is a major component in all indigenous people, traditional medicine and a common element in Ayurvedic, Homeopathic, Naturopathic, Traditional oriental, and Native American India medicines. The world health organization (WHO) notes that out of 119 plants derived pharmaceutical medicines, about 75% are used in modern medicine in ways that correlated directly with their traditional use as plant medicines by native culture. (Kaushik and Dhiman, 2000).

The pre historical days, plants are used for shelter, food and medicines. The uses of plants for medicinal purposes is as old as our civilization. The first known written record of Curative plants was of Sumerian herbal of 2200B.C. in the 5th century B.C. The Greek doctor Hippocrates list out 400 herbs of Common use. In the first Century AD wrote a herbal book using 600 plants which ultimately become the base form many later work. Herbs have been used for uncounted time for various purpose like healing the sick and infirm. Most of the people still
continued with modern research following the lead of old folklore and herbal used to help finding new western medicine. Herbs are generally defined as Non woody plants, which die after the blooming.

This definition has been expanded to any of the plants of which part or whole can be used in medicinal treatments, culinary preparation, nutritionally supplements, or used as a coloring or cosmetic agent. Fresh herbals and medicinal plants can be acquired by gathering them in wild condition, growing them in your own personal garden, or buying them from other gardeners and health food store.

Today, the U.S. pharmacopeias, with its reliance on herbal compounds. Most modern physician's desk references, an extensive listing of chemically manufactured drugs. It is important to note that each entry in this enormous volume have specific chemical compound and action of particular drug. Rather than using a whole plant pharmacologist identify, isolate, extract and synthesized individual components thus capturing the active properties.

This can create problems, however in addition active ingredient, plant contain minerals, vitamins, volatile oil, glycosides, alkaloids, bioflavonoid and others substances that are important in supporting a
particular herbs medicinal properties. These elements also provide an important natural safe guard isolate or synthesized active Compounds can become toxic in relative small doses.

Herbal medicines are less appreciated than used. Many of our present medicines are derived directly or indirectly from plants. Some of them are used as Powder, decoction or extract etc. and phytochemicals of some of some are used as starters of therapeutically active molecules. In the recent days, medicinal plants or herbs are uses singly or in formulation in the name of food additives or bioseuticals and thus they have gained therapeutical status indirectly in the medical world. Many drugs derived from plants have entered in the Western drug market and have found place in the pharmacopeias of world outside India. Clinical plant based researches have proved their efficacy for many diseases for which synthetic drug are not available or less active. Medicinal plant drugs based on ethanopharmacological knowledge with long historical efficacious background. However it is curious that in spite of their proved historical efficacy, these medicines are centre of criticism by pharmaceutical world from producers to doctors and even end users.
Thus, in the case of several other medicinal plants like *Phyllanthus niruri* (Linn) of family Euphorbiaceae which is used for hepatitis-B, efficacy of plant drug is not regular. The cause for this type of behavior must be ascertained. This may be due to erroneous identification of the species, may be deference in the time of collection when the active phytochemicals is less in concentration. It may be due to the fact several sub species of morphological clones are present. However most important is the presence of phytochemical clones ia species. Moreover one species or clones in a specific ecological condition or method of cultivation at same place also indicate variation in phytochemicals quantitatively hence in efficaciy. So it is evident that when we use a plant for medicinal purpose then it should contain optimum quantity or desired chemicals (Biom et al. 2010).

A detailed study in verities and clones is desirable before one can recommend a plant clone for medicinal used. Method of cultivation or collection also need investigation because plant vary in quantity and quality of chemical in different seasons, area and agricultural practices. Hence method of cultivation or collection of plant also need investigation.
*Phyllanthus niruri* family- Euphorbiaceae also have erratic variation in efficacy this is study on *Phyllanthus niruri* and other herbaceous species of this genus for comparison have been planned. Despite huge amount of work done on this plant and claims made, there are reports of variable activities. Recent use of *Phyllanthus niruri* is on hepatitis B, and its use as hepatoprotective drug is well claimed.

There has been a common observation that some time it works excellently and some time do not work well. Phytochemical investigations so far made by us indicate that there are erratic chemical variations in different drug samples. Into there was a confusion regarding efficacy among different species. Hence Bhui amla of India remain active plant. But quantitative molecular diversity of the plant make it controversial so present studies was made to quantification of active molecules in different *Phyllanthus niruri* population (Bagalkutkar et al, 2006).

*Phyllanthus* is the largest genus in the flowering plant family Phyllanthaceae. Estimates of the number species in this genus vary widely *Phyllanthus* has a remarkable diversity of growth forms including annual and perennial herbs, shrubs, climbers, floating aquatics, and pachycaulous succulents. Some have flattened leaflike stems called
cladodes. It has a wide variety of floral morphologies and chromosome numbers and has one of the widest range of pollen types of any seed plant genus. Despite their variety, almost all *Phyllanthus* species express a specific type of growth called "phyllanthoid branching" in which the vertical stems bear deciduous, floriferous (flower-bearing), plagiotropic (horizontal or oblique) stems. The leaves on the main (vertical) axes are reduced to scales called "cataphylls", while leaves on the other axes develop normally. *Phyllanthus* is distributed in all tropical and subtropical regions on Earth. Leaf flower is the common name for all *Phyllanthus* species. This plant popular as chanca piedra or stone breaker.