INTRODUCTION

Ayurveda is believed to have originated over 6000 years ago. Ayurveda consists of two words Ayur and Veda. Ayur meaning life and Veda means knowledge or science. Thus Ayurveda describes the methods of remain healthy and to treat diseases. Ayurveda pharmacopoeia is comprise of more than 1200 species of plants including cinnamon and cardamom etc, nearly 100 minerals including sulphur, arsenic, lead and copper sulphate and over 100 animal products including milk, bones and gall stones^1^.

Mankind has known about the therapeutic effects and benefits of herbal drugs from thousands of years. In the ancient years, whole plants were used as drugs. Herbal drugs are nature’s gift to treat no. of diseases of men and animals. Approximately 80% of the world inhabitants relay on traditional medicines for their primary health care. India is known as an emporium of medicinal plants.

In 1970 the Indian medical central council act aim to standardize qualification for Ayurveda and provide accredited institutes for its study and research and it was passed by Parliament of India. In India over 100 institutes conduct courses in traditional ayurvedic medicine. Central Council of Indian Medicine (CCIM) monitors and inspects institutes for higher education in Ayurveda.

1.2 Herbs as Traditional Medicines

The diverse culture of India is a rich source of traditional medicines, many of which are of plant origin. Herbal medicine is also called as botanical medicine or phytomedicine. Herbal medicines refers to the use of any plant’s seeds, berries, roots, leaves, bark or flowers for medicinal purpose. Herbalism is becoming main stream and research show value of herbs in the treatment and prevention of disease. There is still a great interest in medicinal herbs all over world. The main reason for this is that herbs contain compounds of therapeutic efficacy and they are more natural and more acceptable to patients than synthetic drugs^2,3^.

Practitioners from herbal medicine usually use unpurified plant extract. This unpurified plant extracts contain several different constituents. They claim that these can work together synergistically so that the effect of whole constituents is greater than the total effect of its
individual constituents. Toxicity is also reduced when whole herbs are used instead of isolated ingredients.

The use of traditional medicine is increasing day by day in every country. The goal of “health for all” cannot be achieved without traditional medicine. In United state, products such as Ginkgo, Echinacea, Garlic and many others are advertised widely as safer, more natural and healthier alternatives to conventional medicines. According to recent surveys and studies, 15% to 40% consumers have used herbal medicine to cure many diseases. In last 25 years in United States, due to increasing cost of prescription medicines, combined with an interest in reusing to natural or organic remedies, has led to an increase in use of herbal medicines. Approximately 70% of German physicians prescribe plant based medicines to the patients.

1.2 Bacterial resistance and resistance alternatives

There is urgent need to work on drugs obtained from plants and discover new antimicrobial compounds with diverse chemical structure and novel therapeutic effect because the incidence of new and re-emerging infectious diseases is increasing day by day. Another big concern is the development of resistance to the antibiotics in current clinical use.

The indiscriminate use of antimicrobial drugs by patients for the treatment of infectious disease is the major cause for multiple drug resistance.

Other than this problem, antibiotics produce adverse effects on the host, including hypersensitivity reaction, immune suppression and allergic reactions. This situation forced scientists to think of other alternatives like new antimicrobial substitutions from other sources especially medicinal plants. Several scientists work on the antimicrobial activity of different herbal extracts in different regions of the world. Approximately one-half of all deaths in tropical countries occur due to infectious diseases. Infectious disease mortality rates are also increasing in developed countries, such as the United States. Various medicinal plants and their extracts have been used for years in daily life to treat disease all over the world. Medicines derived from herbs have made significant contribution towards human health. According to the World Health Organization, medicinal plants are the best source to obtain a variety of drugs. Therefore, chemical constituents from such plants should be investigated to obtain a thorough knowledge about their properties, safety and efficacy.
1.3 HERBS AS HEPATO PROTECTIVE AGENT

The use of natural remedies and herbs for the treatment of liver disorders has a long history. It starts with the Ayurvedic treatment, and extending to the Chinese, European and other systems of traditional medicines. More than 700 mono and polyherbal preparations in the form of decoction, tincture, tablets and capsules from more than 100 plants are in clinical use. Liver has a major role in regulation of physiological processes of our body. It plays many vital functions related to metabolism and clearance of most chemicals and toxins. Hepatotoxicity or liver dysfunction is a major health problem of society that challenges not only health care professionals or physicians but also the pharmaceutical industry and drug regulatory agencies of the world.

More than 500 vital functions have been identified with the liver. The liver is important because a person's health and nutritional level is not only determined by what he eats, but by what the liver processes. Unfortunately it is extremely difficult to identify early symptoms specific to liver injury. Patients suffer from liver diseases for a long time without knowing its symptoms.

Liver toxicity is produced from drugs, xenobiotics and oxidative stress. Certain drugs administered either in overdose or in therapeutic dose may produce liver injury. Other chemicals used in laboratories and industries, natural chemicals (e.g. microcystins) and herbal remedies can also induce injury to liver cells.$^4$

Other than these the mechanism of action of bromobenzene, ethanol, paracetamol, carbon tetrachloride, polycyclic aromatic hydrocarbons are activated into their corresponding reactive metabolites through action of cytochrome P$_{450}$ system mainly located in hepatic system in more abundant amount than in any other organ such as kidney, intestine or lungs.$^5$

A no. of blood tests is performed to evaluate the status of liver. These liver function tests (LFTs) include serum glutamic pyruvic transferase (SGPT), Alphafetoprotein (AFP), alkaline phosphatase, bilirubin, serum glutamic oxalactetic transferase (SGOT) and lactic dehydrogenase (LDH).

Herbal-based drugs for liver disorders have been in use all over world for a long time. But there are still unacceptable treatment modalities for liver diseases. The main reason that contribute to
this eventuality are (a) lack of standardization of the herbal based drugs; (b) lack of identification of active constituent(s)/principles(s); (c) lack of controlled randomized clinical trials (RCTs), and (d) lack of toxicological evaluation of drugs. The 21st century has shown a paradigm shift towards therapeutic evaluation of herbal drugs in liver disease models by carefully synergizing the strengths of the traditional systems of medicine. More than 160 phytoconstituents from 101 plants have been claimed to possess liver protecting activity. In India, more than 87 plants are used in 33 patented and proprietary multi-ingredient herbal formulations. Therefore, due importance has been given globally to identify herbal-based hepatoprotective drugs effective against a variety of liver diseases. The present study is to evaluate hepatoprotective activity of chenopodium album.

In the present investigation extracts of leaves, seeds and stems are used to evaluate the antibacterial and hepatoprotective activity. Then the results will be compared and more active part of the plant will be investigated and reported.