1. INTRODUCTION

On earth, plants occupies a unique position since they are the foundation to life. They are the primary producers in all food chains. Plants directly supply 90% of human calorific in take and 80% of proteins intake. Plants are being used as a potential source of medicine for time immemorial. More than 70% of India’s 1.1 billion populations still use the traditional herbal medicine\(^1\).

Introduction to fruits, vegetables, medicinal plants and Herbal medicine:

Vegetable, as a term, was originally used for any plant, now the name for many food plants, and for their edible parts. There is no clear botanical distinction between vegetables and fruits. Most vegetables consist largely of water, making them low in calories. They are excellent sources of fiber, vitamins A and C, potassium, calcium, and iron. Legumes like dried beans, peas, and lentils are a good source of complex carbohydrates while also having high protein content. If one combines rice with legumes it would enhance the protein intake. Phytochemicals are the chemicals found in fruits and vegetables. It is now believed that these chemicals have the capacity to neutralize the oxidants that are produced in our body cells due to metabolism, making the cells age faster. This is the concept of anti-oxidants\(^2\). International studies suggest that for some cancers of the aerodigestive tract, dietary intakes of 400-600 grams of fruits and vegetables per day is associated with a 50% reduction in risk\(^3\). Not only does a diet rich in plant foods provide essential vitamins and minerals, but also over 25,000 phytochemicals which cannot be provided by a typical Western pattern based on refined grains, added oils, sugar and salt. Traditional plant-based diets in other countries may be rich in many of these phytochemicals\(^4\). Recent studies of existing hunter-gatherer populations have revealed that these individuals eat more than 800 different varieties of plant-based foods\(^5\), but when they move into urban areas and begin eating so-called street foods, they begin to develop nutritional deficiencies\(^6\).

India has an ancient heritage\(^7\) of traditional medicine. The materia medica of India provides a great deal of information on the folklore practices and traditional aspects of therapeutically important natural products. Indian traditional medicine is based on various systems including Ayurveda, Siddha, and Unani. In recent times natural products are becoming an integral part of human health care system, because there is now concern over toxicity and side effects of modern drugs. There is also a realization
that natural medicines are safer and allopathic drugs are often ineffective in several ailment. Medicinal plants existed even before human beings made their appearance on the earth. Man's existence on this earth has been made possible only because of the vital role played by plant kingdom in sustaining his life. Since the dawn of civilization, in addition to food crops, man cultivated herbs for his medicinal needs⁸. In the last few decades there has been an exponential growth in the field of herbal medicine. It is getting popularized in developing and developed countries owing to its natural origin and lesser side effects. More than 700 mono and polyherbal preparations in the form of decoction, tincture, tablets and capsules from more than 100 plants are in clinical use⁹.

One of the first written records concerning curative drugs and narcotic substances was found on a clay tablet in Assyrian cuneiform script dating back to 2,700 BC. The tablet mentions a brown drug, daughter of the poppy, meaning opium. In ancient Egypt, medicinal science and the use of medicinal substances have an age old tradition. The Egyptian Pharmacopoeia always had a supply of medications of plant and animal, as well as mineral origins. There were 25 types of medicinal plants, as basic nutritional and medicinal plants, onion, garlic, lettuce, lentils, olives and caraway were used¹⁰.

Ayurveda has well known treaties known as Charak Samhita and Susrut Sanhita, the oldest and very first written document of Ayurveda (900 BC). It describes 341 plants and plant products for use in medicine and more importantly classify these in terms of physiological activity. The traditional medicine used in India known popularly as the Indian system of medicine includes Ayurveda, Siddha, Unani and Naturopathy.

**Herbal medicine:**

Herb has various meanings, but in the context of this it refers to "crude drugs of vegetable origin utilized for the treatment of disease states, often a chronic nature, or to attain or maintain a condition of improved health". Herbal preparations called "phytopharmaceuticals" or "phytomedicine" are preparations made from different parts of plants. They come in different formulations and dosage forms including tablet, capsule, elixir, powder, extract, tincture, cream and parenteral preparations. Herbal products in the crude state are also used. There is a wealth of non scientific herbal medicine information readily available to the health consumer. Access to scientific literature is crucial to the pharmacist for his or her role as a drug information provider.
The pharmacist among all health care practitioners is in the best position to provide information about drug safety and effectiveness. If a herb is used as therapeutic agent it should be considered as a drug\textsuperscript{11}.

**Need and scope of herbal therapy:**

The traditional medicine is largely gaining popularity over allopathic medicine because of the following reasons:

1. Rising costs of medical care.
2. As these are from natural origin, they are free from side effects.
3. Goes to root cause and removes it, so that the disease does not occur again.
4. Cure from many obstinate diseases.
5. Easy availability of drugs from natural sources.

Today we are more concerned with life style diseases like depression, cancer and heart troubles caused by faulty nutrition and stress. Because these diseases have a mental or emotional component, there is a growing conviction that allopathy is largely unable to cure them, all it offers is temporary relief from symptoms\textsuperscript{10}.

Herbal therapy will be one of the best practices to overcome the illness. Traditional Indian practice held that certain drugs should be formulated through the addition of chosen substance that enhances bioavailability of the drug. Recent work, particularly in two Indian modern biology labs, has confirmed the bioavailability enhancer ability of pepper and point to the active component as the molecule piperine. An anti-TB drug rifampicin has to be given at a higher dose than required, in order to compensate for losses on the way to the target site. Formulation of piperine with rifampicin will save the drug and counter effects.

Herbal oriented pharmaceutical companies like Dabur and The Himalaya Drug Company are investing crores of rupees on researching, developing and popularizing OTC remedies. Most of these address modern maladies such as stress, premenstrual syndrome, depression and obesity based on adapted version of ancient Vedic formulas\textsuperscript{11}.

**Overview on anti-inflammatory activity:**

Inflammation is one of the most important and very complex experiences. The international association for the study of pain (1986) has defined pain as; “An unpleasant sensory and emotional experience associated with actual or potential
damage, or described in terms of such damage”12. “Nociception can be defined as response specific to potentially tissue damage stimulation”. It is mechanism where by noxious peripheral stimuli are transmitted to the central nervous system. Pain is a subjective experience, not always associated with nociception.

Inflammation may be acute or chronic type. Acute pain is generally well accounted for in terms of nociception giving rise to an intense and unpleasant sensation. In contrast, most chronic pain states are associated with aberrations of the normal physiological pathway, giving rise to hyperalgesia (an increased amount of pain associated with a mild noxious stimulus), allodynia (pain evoked by a non-noxious stimulus), or spontaneous spasms of pain with no precipitating stimulus.