

## MEDICINAL VALUE OF SOME COMMON HERBS

Rajendra Mehta and Yasmeen Khan\*

Institute of Rural Technology and Social Development, Bilaspur (India)

\*Chhattisgarh Institute of Medical Sciences, Guru Ghasidas University, Bilaspur (India)

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### ABSTRACT

Herbs have been used as food and for medicinal purposes for centuries. Research interest has focused on various herbs that possess hypolipidemic, antiplatelet, antitumor, or immunestimulating properties that may be useful adjuncts in helping reduce the risk of cardiovascular disease and cancer. In different herbs, a wide variety of active phytochemicals, including the flavonoids, terpenoids, ligans, sulfides, polyphenolics, carotinoids, saponins, plant sterols etc. have been identified. Several of these phytochemicals either inhibit nitrosation or the formation of DNA adducts or stimulate the activity of protective enzymes such as the Phase II enzyme glutathione transferase (EC 2.5.1.18). Research has centered around the biochemical activity of the *Allium* sp. and the *Labiatae*, *Umbelliferae*, and *Zingiberaceae* families, as well as flaxseed, licorice root and green tea. Many of these herbs contain potent antioxidant compounds that provide significant protection against chronic diseases. These compounds may protect LDL cholesterol from oxidation, inhibit cyclooxygenase and lipoxygenase enzymes, inhibit lipid peroxidation, or have antiviral or antitumor activity.

**Key words:** Medicinal value, herbs, antitumor, immune.

### INTRODUCTION

Today we are witnessing a great deal of public interest in the use of herbal remedies. Herbal medicine is based on the premise that plants contain natural substances that can promote health and alleviate illness. According to the survey 3% of the respondents had used herbal medicine. The annual sale of herbal medicines in the world now exceeds \$5.12 billion.

In herbal medicine the term herbs is used loosely to refer not only to herbaceous plants but also to bark, roots, seeds, flowers and fruits; and extracts of the same that are valued for their savory, aromatic, or medicinal qualities. The botanical term herb refers to seed-producing plant with nonwoody stems that die down at the end of the growing season. The world health organisation estimated that 80% of the earth's inhabitants rely on traditional

medicine for their primary health care needs, and most of this therapy involves the use of plant extracts or their active components. Furthermore, many Western drugs had their origin in a plant extract. Reserpine, which is widely used for the treatment of high blood pressure, was originally extracted from the plant *Rauwolfia serpentina*, whereas digitalis, used as a heart stimulant, was derived from the foxglove plant (*Digitalis purpurea*). The Chinese herb ephedra (*Ma huang*) which contains the active substance ephedrine, was used early on for the treatment of asthma, whereas salicylic acid (a precursor of aspirin) was obtained from willow tree bark (*Salix alba*) to help relieve fevers. *Cascara sagrada* is laxative contain psyllium.

Indians used several native herbs for food and for medicinal purposes. Bee balm black cohosh, elderberry, ginseng, goldenseal, mayapple, partridgeberry, ragweed, snakeroot, and

yarrow are just a few of the herbs used by Indians for healing (Niering et. al 1979). Self prescribed herbal preparations are widely used today for a host of common ailments and conditions, such as anxiety, arthritis, cold, coughs, constipation, fever, headaches, infections, intestinal disorders, stress, ulcers, and weakness. Some of the more popular herbs in use today include *Echinacea*, *garlic*, *ginger*, *goldenseal*, *ginkgo*, *aloe vera*, etc. *Ginger* is useful for motion sickness; licorice for treating ulcer; peppermint oil for relieving irritable bowel syndrome; saw palmetto berries for treating benign prostatic hypertrophy, *Echinacea* has immunostimulant properties (Tyler, 1994; McNutt, 1995; Dew, 1984).

Some herbal products may be safe and may contain active constituents that have beneficial physiologic effects, others may be unsafe to use (Larkin, 1983; Saxe, 1987). Some herbs are safe in modest amount but they may become toxic at higher doses for example, *licorice* root can be used safely for treating duodenal and gastric ulcers, deaths from its excessive use have been reported (Nielsen, 1984). *Germander*, an herb used in some weight loss programs, has been reported to cause fatal hepatitis (Mostefa-Kara et. al. 1992). *Caowu* and *Chuanwu* are used to treat rheumatism arthritis, bruises and fractures. They may contain highly toxic alkaloids such as aconitine which produces neurologic, cardiovascular and gastrointestinal disturbances (Chan, et.al. 1993).

#### **Herbs as medicine for heart, cancer and immune system :**

Garlic (*Allium Sativum*. L. ) has been used effectively as food and medicine for many centuries. The compound that produces much of the activity of garlic is allicin, which is released when intact cells of a clove are cut or crushed. Allicin inhibits a wide variety of bacteria, moulds, yeasts and viruses (Warshafsky, et. al 1993; Kleijnen, et.al 1989). Regular use of garlic can be effective in reducing the risk of heart attack and stroke because it lowers total and LDL-cholesterol and triacylglycerol concentration without affecting HDL-cholesterol concentration. Blood lipid concentrations are also favorably altered in normocholesterolemic subjects taking garlic (Bordia, 1981).

*Limaum usitatissimum* (flaxseed) is popular for use in bread and bakery products; it provides a nutty flavor and also increases the nutritional and health benefits of the final product. *Limaum usitatissimum* consumption may lower both total- and LDL-cholesterol concentrations because of its low saturated fat content, high polyunsaturated fat and phytosterol content (Bruneton, et.al 1995; Cunnane, et.al 1993). The leaves extract of ginkgo tree has a popular phytomedicine for improving cerebral blood flow. *Ginkgo biloba* extract appears to be somewhat effective, especially in geriatric patients, against conditions such as memory loss, dizziness, depression, confusion and other ailments.

Purple coneflower (*Echinacea*) is a herb with a long history of use. It is a major plant based antimicrobial medicine in use. It acts as an anti-inflammatory agent and as an immunostimulant. It can promote the activity of lymphocytes, increase phagocytosis and induce interferon production (Tyler, 1994)

Several phytochemicals inhibit tumor formation by stimulating the protective phase II enzyme, glutathione transferase (E.C. 2.5.1.18) G.T. is a detoxifying enzyme that catalyzes the reaction of glutathione with electrophiles to form compounds that are less toxic, more water soluble and can be excreted easily (Huang and Ferraro, 1994; Lam, et.al. 1994) Researches have shown that the terpenoids in plants increase tumor latency and decrease tumor multiplicity they also elicit a significant reduction in total- and LDL-cholesterol concentrations, thereby reducing the risk of heart disease (Elson and Yu, 1994; Elson, 1995; Zheng and Kenney, 1993; Pearce, et.al 1992; Yu, et.al. 1994) Garlic is known to have antitumor properties, owing to its content of a wide variety of organic sulfides and polysulfides. Garlic is reported to enhance immune function by stimulating lymphocytes and macrophages to destroy cancer cells and also disrupt the metabolism of tumor cells.

Turmeric (*Curcuma longa*) imparts a rich yellow color to food. Its active phenolic constituents inhibit cancer and also have antimutagenic activity. Turmeric has been shown to suppress the development of stomach, breast, lung and skin

tumors. Its activity is largely due to the antioxidant curcumin, which has been shown to be an effective anti-inflammatory agent in humans.

#### Conclusion

A variety of herbs and herbal extracts contain different phytochemicals with biological activity that can provide therapeutic effects. Several

herbs can help to reduce high blood cholesterol concentrations, provide some protection against cancer, and stimulate the immune system. Furthermore, a diet in which culinary herbs are used generously to flavor food provides a variety of active phytochemicals that promote health and protect against chronic diseases.

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