

Review Article

A Review of Medicinal Plants Effective in the Treatment or Apoptosis of Cancer Cells

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ABSTRACT

Medicinal herbs in various fields of medicine, industry, food and agriculture applications. In the field of medicine and therapy for the treatment of cancer researchers hope many medicinal plants. Plants, herbs, and ethnobotanicals have been used since the early days of humankind and are still used throughout the world for health promotion and treatment of disease. Plants and natural sources form the basis of today's modern medicine and contribute largely to the commercial drug preparations manufactured today. About 25% of drugs prescribed worldwide are derived from plants. Still, herbs, rather than drugs, are often used in health care. For some, herbal medicine is their preferred method of treatment. Today, natural antioxidants are the focus of considerable attention and efforts are ongoing for the replacement of synthetic ones. In addition, these natural antioxidants can be formulated as functional foods and can help prevent oxidative damage from occurring in the body. Due to the side effects of drugs and chemicals in countries around the world, including developed countries are thinking about changing pattern of drug use of chemical plant. Some active drug substances which are very important in the pharmaceutical industry, is impossible to artificially produce only natural as Astkhrajand plants. Although synthetic medicines to improve patients more quickly and has an adverse effect on the human body Mshkhsand but most of them can have side effects. In this study, we report and review of some medicinal plants effective in the treatment of cancer or other diseases discussed.

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Cancer in our country is the most important public health problem. In addition to lifestyle changes and population aging, cancer seems to be much more important in the future (1) .

medicinal plants are traditionally used to treat many ailments, including cancer and related diseases. Cancer is characterized as a condition with complex signs and symptoms. It has been recommended that ethnopharmacological usages such as immune and skin disorders, inflammatory, infectious, parasitic and viral diseases should be taken into account when

selecting plants for anticancer screenings, since these reflect disease states bearing relevance to cancer or cancer-like symptoms (2).

By definition, 'traditional' use of herbal medicines implies substantial historical use, and this is certainly true for many products that are available as 'traditional herbal medicines'. In many developing countries, a large proportion of the population relies on traditional practitioners and their armamentarium of medicinal plants in order to meet health care needs. Although modern medicine may exist side-by

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-side with such traditional practice, herbal medicines have often maintained their popularity for historical and cultural reasons.

Farmers in developing countries are faced with many diseases that limit the productivity of their animals, many of these are caused by tick infestations. Years of use and overuse of available chemical ectoparasiticides have resulted in the large scale development of resistance in these parasites as well as negative environmental impacts (3) .

Today, large quantities of drugs are produced synthetically in the world, but about 60% of the total needs of the pharmaceutical, herbal natural resources be provided by the gather. Currently, about 25% of drugs produced in the world, are extracted directly from plants or plant contains at least one active ingredient. According to WHO 80% of the world's population rely on drugs derived from plants and they used it for treatment (4) .

experimental studies have recognized that tea exhibits a significant health protecting activity due to its high polyphenol content and have a wide range of pharmaceutical properties including antioxidative, anticarcinogenic and antiarteriosclerotic (5) .

Medicinal properties for all parts of the Barberry have been reported, including tonic, antimicrobial, antiemetic, antipyretic, antipruritic, antioxidant, anti-inflammatory, hypotensive, antiarrhythmic, sedative,

antinociceptive, anticholinergic and cholagogue actions, and it has been used in some cases like cholecystitis, cholelithiasis, jaundice, dysentery, leishmaniasis, malaria and gall stones (6) .

Fenugreek having antidiabetic, antifertility, anticancer, antimicrobial, antiparasitic, lactation stimulant and hypocholesterolemic effects has been discussed. Fenugreek has been found to have important bioactive compounds. The studies on fenugreek suggest that the functional, nutritional and therapeutic characteristics of fenugreek can be exploited further in the development of healthy products (7) .

Curcuma plants have a camphoraceous aroma and contain many functional compounds such as phenolics flavonoids and different antioxidant enzymes. The presence of phenolic compounds in medicinal plants are responsible for the antioxidant and anti-inflammatory activities of these species, allowing them to be used as potential chemopreventives (8).

In this LA Betancur and colleagues (1999) examined the antitumor activity and antiviral medicinal plant extracts Columbia was like some kind of pineapple and thus the compounds are potent inhibitors such as Acetogenins and methanol extracts of Annona SP to extract other species have a more acceptable activity. Compounds isolated from pineapple cytotoxic

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activity in ovarian cancer cells and antitumor activity in a rat have cancer (9) .

Ginger extract reduces ovarian cancer cell growth and angiogenic factors will moderate somewhat. Ginger has been shown to have anti-cancer fat in mice. Ginger extract to inhibit several investigations that have been proven skin cancer in mice and rats. This material and cause apoptosis in ovarian cancer cells in the mice (10).

Much research has been done on barberry, for example in the study of Abeer E Abd el Wahab et al (2013) on berberine (active ingredient *Berberis vulgaris*) were anti-cancer, anti-diabetic, anti-acetylcholinesterase (AChE) and its antioxidant in was investigated in vitro conclusion that the roots of barberry contain alkaloids, saponins and flavonoids and phenols are. % Of alkaloids, flavonoids and saponins and total phenolic content in ethanol extract was remarkable. Barberry antioxidant effect was investigated and it was found that the ingredients that have potent antioxidant properties (11). The methanol extract of barberry cytotoxic effects on colon cancer (12) .

Cinnamon has been used traditionally in food preparations and as an herbal medicine to treat a variety of ailments and their symptoms. Cinnamon is known to have antioxidant, antibacterial, anti-inflammatory, and other therapeutic properties.

Cinnamon has been used in food preparations and in traditional medicine by the Egyptians and the Chinese since ancient times, In addition, this spice has been found to have strong antioxidant, antibacterial, antipyretic and anti-inflammatory properties, which play an important role in tissue repair. It is well known that metastasis, one of the major causes of mortality in cancer, involves cell adhesion, invasion, and migration. In one study, the effect of CE on the migration of SiHa (human cervical tumor) cells was examined. The result showed that cinnamon significantly reduced the migration of cancer cells, demonstrating its potential use as an anticancer drug in cervical cancer. Angiogenesis is the development of new blood vessels in a mechanism used by tumors to promote growth and metastasis. VEGF is one of the most critical and specific angiogenesis factors. Various approaches for the inhibition of VEGF are currently being reviewed and studied in clinical trials Currently available anti-VEGF agents have been shown to have serious side effects such as hypertension, bleeding, and gastrointestinal perforation. There has been a renewed interest in identifying natural anti-VEGF agents, given their advantage of being safe for human use. Additionally, consumption of a plant-based diet has been effective in the prevention of cancer development (13).

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Discussion

The findings of this study could also be as new source for antibiotics discovery and infection treatment. Variety of medicinal plants used by people, their extensive therapeutic uses.

herbs are used as adjunct therapy to conventional pharmaceuticals. However, in many developing societies, traditional medicine of which herbal medicine is a core part is the only system of health care available or affordable. Regardless of the reason, those using herbal medicines should be assured that the products they are buying are safe and contain what they are supposed to, whether this is a particular herb or a particular amount of a specific herbal component.

isolation and identification of herbal active ingredients have been common strategies in traditional medicine (14).

The use of medicinal properties of plants in the prevention and treatment of diseases goes back to thousands years ago, and recently, it has received lots of attention due to the available scientific evidences. plant drugs constitute as much as 25% of the total drugs, while in fast developing countries such as China and India, the contribution is as much as 80%. Consumers have reported positive attitudes towards these products, in large part because they believe them to be of “natural” rather than “synthetic” origin, they believe that such products are likely to be more safe than drugs, they are considered part of a healthy life style, and they can help to avoid unnecessary contact with conventional “western” medicine. Although modern medicine may exist side-by-side with such traditional practice, herbal medicines have often maintained their popularity for historical

and cultural reasons (15).

Now, traditional medicine systems continue to play a fundamental role in health care. It should not be forgotten that about 80% of the world's population relies mainly on complementary and alternative medicines especially herbal therapies for their primary health care.

Although alternative forms of health care are prevalent in all regions of the world, there is only scant statistical data of their presence. Recently published WHO global atlas of traditional, complementary and alternative medicine is the first attempt to compile comprehensive information on traditional medicine globally in terms of policy, regulation, financing, education, research, practice and use.

Recent ethnopharmacological surveys showed that herbal remedies are the most preferred modality of complementary and alternative medicine (CAM).

In Palestine as in many other countries, herbal remedies are widely used in the treatment of many diseases.

Plants have been used as a source of effective anticancer agents, and 60% of currently used anticancer drugs are derived from natural sources such as plants, marine organisms, and microorganisms. Several studies have been conducted on herbs that possess anticancer properties and these have been used as potent anticancer drugs. Many preclinical studies have suggested that herbal treatments block metastasis. Natural products have been the most representative source of small molecules for cancer therapy, and have made enormous contributions to the discovery of new drugs with varied mechanisms of action. From antiquity to now, nature has been the center of

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attention as it is the richest source of medicinal agents. It has provided important opportunities for the scrutinized recognition of diseases and the related preventions.

Iranian traditional medicine (ITM) includes a wide range of medical experiences used in the prevention, diagnosis, and treatment of diseases based on the humor theory of temperament. Iran should use its vast resources and technology of the day to achieve an acceptable position in the field of medicinal

plants.

Iran holds 11 of the 13 global climate and climate diversity of geographical and climatic conditions, growth has provided more than 11 thousand plant species, about 10.8% of them are medicinal effects. 300-250 species also have medicinal uses of several thousand years ago. The raw materials of vegetable and therapeutic products derived from them a significant share of the pharmaceutical market are critical.

Conclusion

This study only examines and introduces some medicinal plants, and further studies to use them in cancer therapy and drug delivery is required. Further studies are required to determine the effectiveness of the active principles of plant and their therapeutic effects in the prevention and treatment of such diseases .