

**Review Article****An Overview of Natural Remedies in Modern Medicine**

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ARTICLE INFO:**Article history:**

Received: 08 September, 2016

Received in revised form:

28 September, 2016

Accepted: 10 October, 2016

Available online: 30 October, 2016

Keywords:

Natural remedies

Olive oil

Bitter gourd

Black seeds

ABSTRACT

'An Apple a day definitely keeps the doctor away'. This age old maxim does hold true. Apple contains polyphenols that help in reducing blood cholesterol level. Aloe Vera helps in controlling obesity and has advantages in many dermatological conditions. Banana contains tryptophan which gets converted to serotonin in our body. People suffering from depression felt much better on taking banana daily in the morning as it increased serotonin levels in the central nervous system (CNS). Bitter gourd helps in controlling blood sugar by its influence on glucose metabolism. It also increases pancreatic insulin secretion and prevents insulin resistance. Black seeds/Nigella sativa/black cumin is shown to have anti-tumor effects in some types of cancers in animal studies. Olives are rich in monounsaturated fatty acid which is good to control levels of cholesterol and atherosclerosis. Olive oil contains a powerful mix of antioxidants that can lower low density lipoproteins (LDL).

1. Introduction

An old lady in a European country during the 17th century treated edematous patients by giving a decoction of 'foxglove' with other herbs. This came to the notice of William Withering, a Birmingham physician and it led to the discovery of digoxin, a very useful drug in the treatment of congestive heart failure. This substantiates the fact that natural remedies commonly advised by our grandmothers certainly play a role in the treatment of a number of diseases. It is for the scientists to do a re-research of the medications utilized in the natural remedies and establish their definite role in therapeutics. 'An apple a day definitely keeps the doctor away'. Polyphenols present in apples help in reducing blood cholesterol level. Aloe Vera helps in controlling obesity and has advantages in many dermatological conditions. Bitter gourd helps in controlling blood sugar by increasing pancreatic insulin secretion and preventing insulin resistance. Black seeds/Nigella sativa/black cumin is shown to have anti-tumor effects in some types of cancers in animal studies. Olives are rich in monounsaturated fatty acid which is good to control levels of cholesterol and atherosclerosis. Olive oil contains a powerful mix of antioxidants that can lower low density lipoproteins (LDL).

1.1. Nuts

A handful of nuts daily is what we need to stay healthy. Studies have shown that consuming a handful of nuts (5-10 g) daily protects you from a number of diseases. People who eat nuts have a decreased risk of death from any cause as well as various specific causes, such as cardiovascular diseases and cancer, compared to those who did not eat any nuts. A study published in the British Journal

of Nutrition showed that the risk of coronary heart disease is 37% lower in those consuming nuts more than four times per week compared to people who seldom consumed nuts or consumed whenever they desired[1].

(i). Almonds

They are rich in vitamin E which is an antioxidant. They contain monounsaturated fats which decrease cholesterol level. Consumption of almonds was shown to have health promoting benefits on lipid profiles. A mean daily consumption of 67 g of nuts produced a mean reduction in total cholesterol, LDL, LDL: HDL (High density lipoproteins) and TC: HDL ratios[2].

(ii). Walnuts

They are a rich source of omega 3 fatty acids, minerals, antioxidants and vitamins. Regular intake of walnuts (6-7 per day) helps in lowering cholesterol thereby cutting down the risk of coronary artery disease and strokes by favoring healthy blood lipid profile. Studies have shown that omega 3 fatty acids in walnuts offer protection from breast, colon and prostate cancers. In addition it has many phytochemical substances which possess antioxidant activity and help scavenge almost all of the disease causing free radicals from the human body.

(iii). Raisins

Raisins are dried grapes and are a rich and concentrated source of energy, vitamins, electrolytes and minerals. It contains a phytochemical compound resveratrol which has anti-oxidant, anti-inflammatory, anti-cancer, blood cholesterol and sugar

lowering activities. Studies done by the California raisins health and nutrition research have shown that a regular consumption of one ounce of raisins three times a day caused a reduction in the fasting and post-prandial blood sugar and also a significant reduction of systolic blood pressure.

(iv). Cashews

They are a rich source of copper and magnesium. Magnesium deficiency can lead to insulin resistance, metabolic syndrome, coronary heart disease and osteoporosis. Severe copper deficiency is associated with lower bone mineral density and an increased risk of osteoporosis.

(v). Peanuts

Peanuts form a good source of dietary protein composed of amino acids that are essential for growth and development. Presence of high concentrations of poly-phenolic antioxidants, primarily p-coumaric acid may reduce the risk of stomach cancer by limiting formation of carcinogenic nitrosamines in the stomach. Resveratrol another polyphenolic antioxidant present in rich amounts in peanuts has been found to have protective function against cancers, heart disease, degenerative nerve disease, Alzheimer's disease and viral/fungal infections. Recent research studies suggest that roasting/boiling enhances antioxidant bio-availability in the peanuts.

1.2. Fruits

(i). Apple

Apples are one of the healthiest foods a person can eat. They are high in fiber, vitamin C, polyphenols and low in calories. They have only a trace of sodium and no fat or cholesterol. Soluble fiber pectin present in them prevents atherosclerosis and heart disease. They assist in weight management, bone health, pulmonary function and gastrointestinal protection. Apples have the highest antioxidant content in the fruits which helps in preventing cancers. A study in Hawaii found that people who regularly ate apples diminished their risk of lung cancer by fifty percent[3].

(ii). Pomegranate

Pomegranates are among the healthiest fruits on earth containing a range of beneficial plant compounds. It has a high antioxidant property which offers protection against cardiovascular diseases and cancer. Trials have shown the reduction of cardiovascular risk factors in people who had a cup of pomegranate juice daily. Phytochemicals in pomegranates called ellagitannins seem to inhibit the growth of estrogen-responsive breast tumors[4]. They act by blocking an enzyme aromatase, responsible for estrogen synthesis. Recent studies have also shown that pomegranate juice may contain substances that decrease or slow the rise of prostate-specific antigen (PSA) levels and may be effective in delaying or preventing recurrent prostate cancer. It also provides relief from osteoarthritis.

(iii). Water melon

It is a misconception that watermelon is made up of only water and sugar. On the contrary watermelon is actually a nutrient

dense food that provides a high amount of vitamins, minerals and antioxidants for a low amount of calories. Many studies have suggested that increasing consumption of plant foods like watermelon decreases the risk of obesity and overall mortality, diabetes, heart disease and promotes a healthy complexion.

(iv). Papaya

Papain found in papaya fruit and its leaves has numerous health benefits. Several studies have shown its beneficial effect as an anti-inflammatory agent[5] for its wound healing properties[6] anti-tumor as well as immune-modulatory effects[7]. A serving of the fruit every day certainly would provide us great health benefits. Recent studies have shown the papaya leaf extract to increase the platelet count in animal studies and also in patients suffering from dengue fever[8].

(v). Banana

It is a rich source of serotonin as it contains tryptophan which gets converted to serotonin in our body. Serotonin helps to improve your mood and makes you relax. Animal studies have also shown the antidepressant effect of banana[9]. It is also a rich source of potassium, minerals and antioxidants.

(vi). Olive

Olive oil is one of the major constituents of the diet in the Mediterranean countries. Consumption of olives or olive oil is considered important for preserving a healthy and relatively disease-free population. Extra-virgin olive oils are particularly rich in phenolic antioxidants like hydroxytyrosol, tyrosol, oleuropein, lignans, as well as squalene and oleic acid which are supposed to offer considerable protection against cancer (colon, breast, and skin), coronary heart disease and ageing by inhibiting oxidative stress[10].

1.3. Vegetables

It is important for us to include large amounts of vegetables in our diet. Vegetables, like fruits, are low in calories and fats but contain good amounts of vitamins and minerals. All the green-yellow-orange vegetables are rich sources of calcium, magnesium, potassium, iron, beta-carotene, vitamin B-complex, vitamin-C, vitamin-A, and vitamin K.

(i). Bitter gourd

It has been proved in studies that bitter gourd has anti-diabetic and weight losing effects[11]. It controls blood glucose by glucose lowering effects. It influences the glucose metabolism all over the body rather than a particular organ or tissue. It also increases pancreatic insulin secretion and prevents insulin resistance.

(ii). Cabbage

It is rich in glutamic acid which is responsible for reducing blood pressure in people on rich vegetable diets. In addition it also has antioxidant, anti-inflammatory and anti-ulcer activity

in the stomach. It is an excellent remedy for rheumatoid arthritis, lower back pain and abdominal cramps.

(iii). Aloe vera

Aloe vera is a popular plant being used since long for a number of medicinal effects. It contains polyphenols having numerous beneficial actions. Studies have shown that Aloe Vera gel promotes wound healing by directly stimulating the activity of macrophages and fibroblasts[12]. It can be used for all minor dermatological manifestations such as acne, dermatitis, sores, first degree burns, warts, psoriasis and rash.

(iv). Fenugreek seeds

Clinical studies have shown fenugreek seeds to have a beneficial effect in diabetes. It stimulates insulin secretion, improves glucose tolerance and has hypoglycemic action. As it is rich in fiber it slows down absorption of carbohydrate and sugar. One study has found that adding 100 grams of defatted fenugreek seed powder to the daily diet of patients with insulin-dependent (type 1) diabetes significantly reduced their fasting blood sugar (FBS), improved glucose tolerance and also lowered total cholesterol, LDL and triglycerides.

(v). Flaxseeds (linseeds)

Flaxseed has a high content of three components with demonstrated cardio protective effects : the omega-3 fatty acid alpha-linolenic acid (ALA), dietary fibre, and phytoestrogen lignans. Many studies have shown that regular consumption of flaxseed daily can modestly reduce circulating total cholesterol (TC) and low-density lipoprotein (LDL) cholesterol. In addition it also lowers various markers associated with atherosclerotic cardiovascular disease in humans[13].

1.4. Spices

(i). Black seeds (Nigella sativa/black cumin)

Black seeds are loaded with health benefits. It is said that they are a remedy for everything except death. The active compound in it is thymoquinone which has antioxidant effect, improves defense system and also induces apoptosis. Research has shown it to have anti-cancer effects in hematological cancers, breast cancer, hepatic cancer, lung cancer and cervical cancer.

(ii). Cinnamon

Cinnamon regulates blood glucose and lipid level and also improves insulin sensitivity and slows absorption of carbohydrates in the small intestine. It was found in studies to significantly decrease blood sugar in a dose dependent manner in addition to a decrease in concentrations of triglyceride, total cholesterol and intestinal alpha glycosidase activity after six weeks of the administration. There was also significant rise in serum insulin and HDL-cholesterol levels[14]. The other actions of it include anti-inflammatory and antispasmodic effects.

(iii). Garlic

Garlic has been in use as a traditional drug and a spice since thousands of years. Research suggests that taking garlic regularly may lower the blood pressure and decrease the cardiovascular and cancer risk as well. Different compounds present in garlic are believed to decrease the risk for cardiovascular diseases, produce anti-tumor and anti-microbial effects, and show benefit on high blood glucose concentration. However, the exact mechanism of all ingredients and their long-term effects are not fully understood[15].

(iv). Ginger

Ginger, the root or the rhizome has also been a popular spice and herbal medicine for thousands of years. Several studies indicate that ginger may work better than placebo in reducing some symptoms of motion sickness, morning sickness and nausea of chemotherapy. It also has anti-platelet, hypolipidemic and hypoglycemic effects.

(v). Curcumin

Curcumin is a component of the golden spice turmeric which has been used both in Ayurveda and Chinese medicine as an anti-inflammatory agent and to treat gastrointestinal problems, skin diseases and wounds. It produces remarkable effects in a number of dermatological conditions like skin ulcers, pimples, dermatitis, eczema, psoriasis, sores, herpes lesions, measles, mumps, chicken pox, snake bites and insect stings.

1.5. Miscellaneous

(i). Honey

It has antibacterial, anti-inflammatory activity and also stimulates immune responses. Studies have shown honey to possess wound healing properties[16]. Honey can also heal herpes lesions and bedsores when applied directly. There is stimulation of tissue growth, enhanced epithelialization, and minimized scar formation. These effects are on account of its acidity and hydrogen peroxide content. It was found to lower prostaglandin levels and elevate nitric oxide end products. These findings would support the use of honey as a natural and safe wound healer[17]. Honey when applied directly on face produces cleansing of skin and blackheads and is good for a better complexion.

(ii). Coco powder

Cocoa powder and chocolate contain numerous substances mainly flavonoids found in the form of epicatechin which produce several beneficial effects on the brain. Chocolate causes an improvement in the mood by releasing endorphins, lowers the risk of Alzheimer's and decreases the risk of stroke by its neuroprotective effect[18].

(iii). Milk

Milk is not just for the growing years of our life. A glass of milk everyday should be taken to keep ourselves healthy. The benefits of milk include increased bone strength, smoother skin, stronger immune system, prevention of illnesses such as

hypertension, dental decay, dehydration, respiratory problems, obesity, osteoporosis and even some forms of cancer.

(iv).Yoghurt

Yogurt is highly nutritious and is an excellent source of protein, calcium and potassium. It provides numerous vitamins and minerals and is relatively low in calories. Studies have shown it to reduce the risk of cardiovascular diseases and stroke if regularly included in your diet. It also helps to maintain the balance of bacteria necessary for a healthy digestive system.

(v). Fish

Fish is a rich source of lean protein, polyunsaturated omega 3 fatty acids and vitamin D. It is advisable to include fish in your diet at least once in a week to prevent cardiovascular diseases, Alzheimer's and depression.

(vi). Unrefined coconut oil

Research has proved its antimicrobial properties[19] and it can be used for minor bacterial infections. It also has antioxidant properties that are anti-ageing, help with weight loss, hair loss and chronic digestive problems.

2. Conclusion

Clinical studies are required of the innumerable age old recommended natural remedies so that newer drugs become available in therapeutics. 'Chance Discoveries' of unexpected actions can also be a blessing during such studies. This gains importance in the treatment of intractable medical conditions like cancers, human immunodeficiency disease (HIV) and autoimmune diseases.

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Source of support: Nil, Conflict of interest: None Declared