

AFRO**B**eyondist**C**ivilization



**BEYONDIST
HERBAL
MEDICINE**

Researched
By
Gilbert Kinyua Mwaniki



ABSTRACT

The history of herbs and spices is as long as the history of mankind. People have used these plants since earliest times. No other commodity has played a more pivotal role in the development of modern civilization as spices. The lives of people and plants are more entwined than is often realized. Some herbs have the power to change our physiological functioning, they have revolutionized medicine, created fortunes for those who grow, process and treat them, and in many cases have assumed social and religious significance. Herbs have changed the course of history and in economic terms have greater importance as ingredients in food and medicine, perfumery, cosmetics and garden plants. The knowledge of herbs has been handed down from generation to generation for thousands of years. Wars have been fought and lands conquered for the sake of these plants. Even today we continue to depend on herbs and spices for many of our newest medicines, chemicals and flavours and they are used in culinary preparations, perfumery and cosmetics. Many medicinal herbs are also food, oil and fiber plants and have always been grown for a range of purposes. The term 'herb' has more than one definition. In the most generally accepted sense, herbs are plants valued for their medicinal and aromatic properties and are often grown and harvested for these unique properties. Some of the earliest of herb gardens were planted about 4000 years ago in Egypt. Herb growing was often associated with temples, which required herbs and sacred flowers for daily worship and rituals. Both horticulture and botany began with the study of herbs. The earliest gardens were herb gardens. The present-day concept of a herb garden has developed largely from ancient Egyptian, Christian and Islamic traditions. In most parts of the world, herbs are grown mainly as field crops or on a small scale as a catch-crop among vegetables and ornamentals as they were thousands of years ago.

MEDICINAL PROPERTIES

Different parts of herbs and spices such as bark, seeds, flower buds, roots have shown medicinal properties. The most common medicinal properties can be listed as, antithrombotic, anti-carcinogenic, antiarrhythmic, anti-rheumatic, antisclerotic, lipid-lowering actions and gastroprotective. Other than that, spices can provide protection against radiation and also inhibit the oxidation of protein glycation and low-density lipoprotein (LDL).

Most of the time, traditional ancient people used to utilize various kinds of herbs and spices to overcome a wide range of health problems and diseases, although they did not know the scientific background. But nowadays there are proven results of the beneficial

effects of these natural sources. It is possible to add spice for our day to day meal which will help to heal some of the common diseases as well as syndromes and to increase the disease resistance.

Using spices as a source of medicine for serious health issues is highly preferable as they have been used for many years without toxic effects. They are considered safe and have fewer side effects when compared with chemical medicines. Also, most of them are highly available and less expensive. Also, it is always better to avoid those health issues by using spices and herbs like natural sources without going into synthetic drugs with other side effects after the health issue occurs. Proper knowledge about the medicinal properties of the spices is essential for that.

Even the World Health Organization supports the development of treatments by using these natural sources to reduce the side effects

1. Anti-carcinogenic

Cancer is one of the most common non-communicable diseases which is having high mortality, and there are many types of it. Commonly lung, rectum, colon, and prostate cancers are seen among men and breast, colon, rectum and stomach cancer are seen among women. Normally, there are cancer cells in everyone's body by the transformation of normal cells into cancer cells through many stages. But our immune system controls the growth of them. Cancer which is known as the growth of tumour cells uncontrollably and undesirably in high amounts by the cell division can occur mainly if the immune system is weak or if we increase the number of tumour cells in our body by stimulating their growth. This stimulation can occur by various environmental factors and carcinogenic compounds we consume in our day to day life.

There are different stages in the development of cancers. The first stage is known as the initiation and there will be a reaction between cancer producing substance, and DNA of tissue cell. This stage is dominant, and the development of cancer can be easily controlled at this stage. It takes a long time to go up to the second stage, and at this stage also it can be controlled easily. But it is very hard to control it at the third, and final stages and it spreads rapidly at these stages.

In most cases, the symptoms are showing when it is too late. So, it is very important to consider about controlling the growth of cancer cells before those irreversible stages occur. Also, most of the time, the synthetic drugs used to treat cancer will damage healthy

cells as well. That is the reason behind the many side effects occurs after those treatments. There are natural sources, including many spices which can reverse or prevent the development of cancer cells.

Spices that can be used for this condition: garlic, turmeric, cinnamon, clove, black pepper, fenugreek, ginger, onion, mustard, thyme, fennel, saffron, coriander, chilli pepper. Garlic, onions reduce stomach cancer risk. Rosemary, sage contains carnosic acid and rosemary acid (RC-18), which reduce the risk of cancer. Curcumin which is mainly found in turmeric, is good for colon cancer, breast cancer. Saffron is also listed as an agent for anticancer drugs. The gingerol, which is contained in ginger, also helps to control the growth of tumors, breast cancers, ovarian cancers.

Anti-diabetic

Diabetes is a metabolic syndrome, and it will not allow using the energy of the food we consume properly. It either happens if the pancreas is not secreting the required amount of insulin or if the insulin secreted by the pancreas does not work as required. (Insulin resistance)

So, there are two types of diabetes. Type 01- Insulin-dependent diabetes mellitus (IDDM). It is only seen among 5-10% of diabetes patients. It most commonly happens due to genetic reasons and autoimmune; environmental factors also increase the risk of this type of diabetes. Type 02- Non-insulin dependent diabetes mellitus (NIDDM). It is seen among 90-95% of diabetes patients. Obesity increases the risk of these type of diabetes, and this type is easy to control by controlling the diet, exercise and medications. It can also occur during pregnancy and disappears when the pregnancy is over.

Spices that can be used for this condition: garlic, cinnamon, fenugreek, ginger, onion, mustard, fennel, saffron, garcinia, tamarind, coriander, chilli pepper.

Garlic - Oral consumption of the garlic extract have increased the insulin secretion of the rats which were having diabetic and not in normal rats.

Side effects of some synthetic anti-diabetic drugs are listed below,

- ✓ Insulin - Insulin allergy, Hypoglycemia, Weight gain, Lipodystrophy at injection sites.
- ✓ Thiazolidinedions - Cardiovascular risk, weight gain Water retention, Bladder cancer.

- ✓ Sulphonylureas - Weight gain, Cardiovascular risk, rash, Hypo glycaemia, Bone marrow damage.
- ✓ Biguanides (Metformin) - Gastrointestinal effects, Lactic acidosis.
- ✓ DPP-4 inhibitors (Saxagliptin) - Risk for cancer, kidney impairment.

Anti-obesity

Obesity is a common issue, and also it is severe as it directly links with cardiovascular diseases as well as hypertension, Type 2 diabetes, respiratory disorders and strokes. It is not a disease, and it is metabolic syndrome. This can occur when the body accumulates fat in massive amounts. Fat accumulation can occur due to undesirable dietary pattern, lack of physical activities (sedentary behaviour), genetic problems, age, depression, etc.

When we consume fat (triglycerides), it is converted into energy in the body, and the surplus will be stored in different areas of our body for later usage. Fat is stored in adipose tissue, liver, and muscles as glycogen. This storing mechanism should take place properly because if not, the blood triglyceride levels will be increased and cause serious heart diseases. When they are stored in high amounts, it will increase body weight, and that's the reason for obesity. So, there should be a balance between fat intake and energy production. The body required energy for many purposes like brain functions, other internal body functions, physical activities, and etc. So, fat is also an important source for a healthy life, but managing the level is important to get rid of adverse effects. BMI (Body mass index) is used to measure the degree of obesity.

Several spices help to burn the excess fat, but it is better if it is combined with the exercises to spend the energy because sometimes it can increase the blood glucose level when dissolving the stored fat in our body. Considering about that is also essential when treating obesity with oral medicine.

Spices that can be used for this condition: turmeric, onion, garcinia

Anti- aging

By reducing the oxidation in the human body, the aging process can be slowed down. When a human breathes oxygen, our cells produce energy and also as a by-product free radicals are also forming in this process. These radicals are highly reactive, and they damage cells, mitochondria, and even DNA by interacting with the molecules in

the human cell. With the emotional and physical stress, this process can be accelerated. Other than that, when our cells produce energy by glucose, when the immune system is fighting with a disease and when our body detoxify toxic compounds coming into our body, free radical formation occurs. Therefore, complete elimination of free radical formation is not possible, but the number of free radicals should not exceed the anti-oxidant amount because if so, there will be a harmful effect on our cells and DNA.

The largest organ of the human body is the skin. Aging is usually determined by the changes occurring in the skin over time. Exposing to UV radiation (Sunlight) accelerates the oxidation in the skin by forming free radicals. These radicals destroy the collagen and elastin fibers in the skin and attack the skin structure. Wrinkles, dyschromia, skin relief changes are some results of it.

Effects of oxidation:

- Memory loss
- Fatigue
- Muscle/joint pain
- Wrinkles
- Headaches
- Decreasing the eye sight.

Also, oxidation is strongly associated with an ample amount of non-communicable diseases such as diabetes, anxiety, cancer, chronic fatigue syndrome, insomnia, fibromyalgia, etc. By increasing the amount of antioxidant usage, oxidative stress can be reduced as they will block the formation of free radicals.

Increasing the consumption of spices which are having anti-oxidant compounds is a better solution without any harmful effect. Spices that can be used for this condition: garcinia

Anti-diarrheal

Diarrhea is not a very serious health issue. It is a temporary problem as most of the time it will only last for a few days. But it can be severe for infants as several child deaths are reported due to this condition as it causes dehydration. The main symptoms are watery stools, abdominal pain, fever, bloody stool, etc. The patient can quickly become dehydrated if this problem lasts for a considerable period.

This condition can occur due to different causes, mainly including bacteria, parasites, viruses, medications, and digestive disorders. Herbal medicines can easily be used to manage this condition. This anti-diarrheal plant extracts act against microbes like *Staphylococcus aureus*, *Vibrio cholera*, *Escherichia coli*, *Salmonella typhi*, *Shigella dysentery*, *Shigella flexneri*, *Shigella sonnei* and etc. which cause abdominal disorders.

Spices that can be used for this condition: cardamom, turmeric, black pepper, dill, tamarind, coriander, chilli pepper.

Anti-depressant

Depression is a mental health issue as it affects the brain, and can be found among anyone at any age. It can even cause physical problems as it directly affects the way someone feels, thinks, and also behaves. Genetic, environmental, biological, psychological factors can affect human mental health. There are some chemicals in our brain called neurotransmitters, and when they are not working correctly, this problem can occur as it affects the nerve connections. Anti-depressants are used to control depression by balancing these chemicals.

There are many synthetic anti-depressant medicines, but they can cause different side effects like nausea, sexual problems, constipation, dizziness, dry mouth etc. So, focusing on natural anti-depressants is a better option, and most of the spices contain these compounds. Plant extracts aid proper neural communication by binding with the neurotransmitters or the neuromodulator receptors and altering the neurotransmitter synthesis.

Spices that can be used for this condition: saffron

Dental health

Most of the time, dental issues are occurring due to microbial effects. Tooth decay, cavity formation, bad breath, gum disease, and infections are the most common oral issues. Dental decay occurs when calcium phosphate in teeth starts to dissolve by the activities of some gram-positive bacteria. As they metabolize sucrose into organic acids like lactic acid, which dissolves calcium phosphate. This process is known as decalcification.

Gum inflammation and dissolving are occurred by the action of anaerobic gram-negative bacteria. Bleeding and inflammation are the common symptoms of this issue, and it occurs when the attachment of collagen between the tooth and bone is reduced. Bad breath and discolored teeth are also occurring due to microbial activities and coatings, but they are not very serious issues. Washing off and rubbing the teeth by using proper anti-microbial extracts will help to overcome this issue easily.

Before manufacturing the toothpaste and mouthwashes, ancient people used to clean the mouth with natural ingredients, and most of them are spices. They were effective as they contain highly effective antimicrobial compounds. Even recently, people manufacture oral cleaning products by incorporate with those ingredients.

Spices that can be used for this condition: cinnamon, clove, cardamom, nutmeg.

Boosting immunity

The immune system is doing an incredible job by fighting against potential factors like microbes and poisons that can cause harm and make the human body ill. White blood cells, antibodies, complement system, lymphatic system, spleen, bone marrow, thymus are the main parts of the immune system.

The immune system can be weaker as we get older due to nutrition deficiencies, stress, bad habits, and medical conditions. When it is malfunctioning, the risk of getting infected and be sick will be increased. So, it is important to make sure our immune system is functioning properly. Boosting the immune system can be done by incorporating natural sources like spices.

Spices that can be used for this condition: garlic, turmeric, clove, black pepper.

Anti-septic

Words antiseptic and disinfectants are most popular among the medical field and other health care settings. So, in those kinds of places they use chemical agents such as alcohol, iodine, chlorine. Generally, we call them as biocides. They have been used for hundreds of years. The main target of using these biocides is destroying microbes effectively than antibiotics. This is because most of the time antibiotics have specific intracellular targets while biocide has multiple targets. In addition to that when

antibiotics involve destroying selective microbes at low concentration biocides destroy or inhibit microorganisms in or on living tissue.

The mechanism behind the inhibition of microbes due to the action of antiseptics is leakage of intracellular constituents inhibition of enzymes, electron transport and oxidative phosphorylation, but the problem is, by using these chemical antiseptic agents it is difficult to eliminate some microorganisms as well such as *Staphylococcus aureus* (*S. aureus*), *Escherichia coli* (*E. coli*), and *Pseudomonas aeruginosa* (*P. aeruginosa*) due to rapid growth.

So, some natural plants have various bioactive compounds which have antiseptic properties. And they are recognized as safe than chemicals. Most of the time essential oils of spices are rich in antiseptic properties. Microorganisms presence in food will lead to various kinds of harmful diseases. Therefore, using spices that have antiseptic properties inhibit those harmful reflections as well as extend the shelf life of particular food as well. On the other hand, natural spices help to increase consumer acceptance because it is good for health.

Spices that can be used for this condition: cardamom.

Anti-clotting

Anti-clotting is done by anti-coagulant agents. Those can be either artificial or natural. So, the thing is doing by an anticoagulant agent is preventing the formation of blood clots and reduce the thickness of blood. If blood is getting thicker it will cause the formation of blood clots and it will lead to serious health problems such as heart attack, strokes, deep vein thrombosis (blood clots in the leg or lower extremity) and stent thrombosis.

Anti-clotting agents prevent the formation of new blood clots in veins, arteries, heart and the brain of humans. Nowadays people move on to artificial medicines due to availability and convenience and for preventing blood clots. But the thing is, those chemical medicines almost have many side effects such as abdominal pain, bleeding, gastrointestinal dysfunctions, headache, fever, nausea and diarrhea.

As a substitute, it is better to use spices as a natural product to prevent thrombotic disease which comes from common diseases such as myocardial infarction and stroke.

As well as spices eliminate undesirable side effects and providing additional advantages as well.

Spices that can be used for this condition: garlic, clove, ginger, chilli pepper.

Anti-inflammatory

Inflammation can be either acute or chronic. Acute inflammation involves lowering of immunity by immune cells and occurs for a short duration while chronic inflammation occurs due to continuing acute inflammations for a long time and lead for arthritis, cancers, cardiovascular diseases, diabetes and neurological diseases.

Inflammation is a situation which leads to redness, swelling and pain in a particular body part. To eliminate those kinds of things it is better to use natural or artificial anti-inflammatory agent. Most of the time almost all artificial agent or medicines have considerable side effects, especially to our liver and kidney. Therefore, to prevent those things it is better to use natural spices because spices have anti-inflammatory properties.

Spices that can be used for this condition: turmeric, cinnamon, clove, cardamom, black pepper, ginger, rosemary, nutmeg, saffron, tamarind, coriander, chilli pepper.

Carminative

The agent which avert or mitigate flatulence (intestinal bloating and gas in the intestinal tracks). Some of the spices help to cure those kinds of situation as well as stimulate digestive functions, enhance the secretion of digestive enzymes to promoting proper digestion.

Spices that can be used for this condition: cardamom, dill.

Anti-lithogenic

The lithogenic effect is increasing the formation of stones (calculi) within the body. Usually composed of mineral salt. Commonly occur as renal calculi, gallstones likewise. Gallstones are categorized as cholesterol, black pigment and brown pigment. All those gallstones have unique structural properties.

To the formation of cholesterol crystals, it is important to have either single requirement or multiple requirements such as cholesterol supersaturation, accelerated nucleation, bile salt likewise. Other two type of gallstones are formed due to precipitation of bilirubin in bile. So, to reduce these kinds of health effects it is important to consume spices which have anti lithogenic properties because it will heal you from lithogenesis.

Spices that can be used for this condition: cardamom, chilli pepper.

Anti-asthmatic

Asthma is a respiratory disease of lung's airways. Most of the time dust, mould, spores, mites, animal hair or feathers are cause for asthma while cold air affecting too. Asthma is a global disease which thousands of people are suffering.

Nowadays, many kinds of artificial treatments such as nebulization and chemical medicines are available in the world, but there are so many side effects too, such as dryness or irritation in the throat and mouth, unpleasant taste in the mouth likewise. Other than that, pills consumption will cause long term diseases as well. Some spices have an anti-asthmatic property and it is a good way to cure asthma by using a natural product.

Spices that can be used for this condition: cardamom, ginger, onion, chilli pepper.

Anti-allergic

Allergy is a situation where the internal body reacts to a specific substance by identifying it as a toxic or harmful compound while it is not. These allergen substances can be in a wide range such as dust, food compound, animal part, medications, pet and pollen likewise. These allergens are varied person wise. However, genetics, age, sex, time and climate can be affecting these allergies.

Most of the time allergies are not involved in major problems while anaphylaxis like allergies needs sudden treatments and medications. In addition to that although artificial medicines are available, they have side effects too as other medicines. Therefore, it is better to use a natural anti-allergic agent.

Spices that can be used for this condition: ginger, onion.

Anti-cataract

A cataract is a common disease which occurs in the human's eye. A dense cloudy like layer will form in the lens of the eye. Then it is impossible to send a clear picture to the retina through the lens. The picture comes to the retina as light through the lens. The retina is the place which converts that light into a signal and facilitates to send that signal to the brain through the optic nerve.

A cataract will cause blurry vision, trouble seeing at night, seeing colours as faded likewise. Smoking, UV radiations, long term steroids and medications and radiation therapies might cause for cataracts. By doing a surgery it is possible to recover that problem but prevention is better than cure.

Spices can be used for this condition: fenugreek.

Anti-atherosclerosis

Atherosclerosis is a serious disease which plaque (plaque is a substance which is made up from fat, cholesterol, calcium and other substances that are presence in blood.) They deposit in the blood arteries (blood arteries are the type of blood vessels which carry and circulate oxygen-rich blood all over the body).

Due to deposition of plaque in blood arteries the arteries get narrow and blood flow get slower. Because of that reason heart attacks, strokes can be expected while increasing the blood pressure also. Finally, these things can lead to even death. Therefore, it is better to use spices which have anti-atherosclerosis property. Then it may delay the deposition of plaque in arteries.

Spices can be used for this condition: garlic, saffron.