
The Treatment of Chronic Diseases

Today, the primary cause of the world's rate of diseases in a population and things that subject us to death is chronic conditions that stems from lifestyle-related reasons. Many of these diseases can be dealt with through Ayurveda, a traditional medicine practiced by the Hindu that focuses on the balance of systems of the bodily, yogic breathing, healthy diet, and treatments using herbs. So it's not a surprise that herbs are not only useful in the culinary kitchens, but due to the mounting evidence that herbs do in fact heal and remedy many conditions, that more and more studies are done to find these herbs' healing properties. Holy basil (*Ocimum sanctum*), also known as Tulsi, is an amazing herb that has stood the test of time. For nearly 3,000 years, this revered herb is considered one of the most powerful herbs in India!

In Hindu, the holy basil is one of the central components of traditional ayurvedic medicine, and is considered a blessed herb to the Hindu God Lord Vishnu known to promoting a long life and also attribute to good health and personal growth. In the practice of ayurvedic medicine, holy basil is the king of the herbs and it is known to treat sicknesses and maladies such as allergies, diabetes, impotence, infertility, and respiratory disorders just to name a few. There have been many studies done with animals as well as clinical trials with humans that has scientifically proven that basil is a potent and effective adaptogen, meaning that it is a natural substance found to help the body adapt to stress and demonstrates normalizing effects that stress may cause. These studies show that holy basil possesses unlike anything else, combination of pharmacological properties that include: Adaptogenic, anti-stress, anti-ulcer, anti-thyroid, anti-cataract, anti-asthmatic, anti-carcinogenic, anti-pyretic, anti-allergic, anti-hypertensive, wide-spectrum antimicrobial, anti-diarrheal, anti-oxidant, anti-inflammatory, memory enhancement, great mosquito repellent, neuro-protective, hepato-protective, and more.

All these properties help the mind and body deal with wide range of physical, chemical, emotional and infectious stresses and can help regain psychological and physiological functions. Chemically speaking, one of the tulsi's anti-inflammatory properties that combats inflammation very similarly to marijuana is due to a component called BCP, also known as (E)-beta-caryophyllene. However, BCP has none of the addictive risk as medical marijuana which makes it a great alternative. Currently, although medical cannabis is becoming more and more widely used due to its effectiveness to stimulate appetite, relief pain, and control nausea and vomiting, it however comes with a list of its capabilities of long term neurological or mental side effects such as decreased motor skills, attention impairment, changes to brain structure, difficulty learning, and decreased computing speed just to name a few.

Choosing to use holy basil can avoid any of those risks that comes along with using medical marijuana. Another bonus is that holy basil can easily be attained without a prescription. In addition to BCP, another compound holy basil contains is cinnamonic acid which is known to stabilize blood sugar, circulation enhancement, and improvement of respiration. Other numerous chemical components of this herb include eugenol, a liquid component found in clove oil and other essential oils. When the fresh leaves and stems of holy basil are extracted, it also yields the following elements: rosmarinic acid, apigenin, isothymonin, isothymusin, cirsimaritin, and cirsilineol. With so many beneficial components in this plant, it's no wonder that the holy basil is so valued for its versatility to rejuvenate health where the cause of one's illness is

stemmed from imbalance. It is known that the production of cortisol, a stress hormone, increases when the body is stressed. When cortisol levels are elevated, it can cause weight gain, affect memory and learning, increase the risk of heart disease by having a negative effect with increased cholesterol and blood pressure, lower bone density and immune function the list is endless.

Many studies have been done with holy basil using lab rats demonstrating its effectiveness as an anti-stress remedy. In one study, plant extracts of holy basil were used, and shown to have an anti-peroxidative effect, which meant that it could be promising to have potential uses for those with corticosteroid-induced diabetes. If this works on humans, it could be invaluable to treat those who experience negative side effects from corticosteroids usage. Moreover, it could be beneficial for those who has compromised blood sugar management due to serum cortisol upregulation. This would help with the corticosteroid usage side effects such as disturbed metabolism of carbohydrate, weight gain, and sugar cravings that is trickled from an increased appetite.

Other studies were performed on rats that measured the stress levels due to chronic noise exposure. These studies showed that the rats that had been treated with ethanolic extract of holy basil leaves for 7 days helped the test subjects better resist stress from the noise exposure by resisting changes in acetylcholine and acetylcholinesterase activity in the hypothalamus, corpus striatum, cerebral cortex, and hippocampus. Just imagine how beneficial the holy basil can be when used on human beings as an anti-stress reliever! Studies have shown that there are two types of cholesterol, the HDL-cholesterol known as the “good” cholesterol, and LDL-cholesterol known as the “bad” cholesterol. When we visit the our family physician, we are often told that we need to strive to raise our HDL cholesterol levels, and lower our LDL cholesterol levels to decrease the risks of heart disease. Interestingly, a study was done using lab rats that were given the fresh leaves of holy basil in their diet, and these rats showed a remarkable raised levels in fecal fat content and HDL cholesterol.

On the other hand, there was a significant decrease in triglyceride levels, phospholipids, LDL cholesterol, and total serum cholesterol levels. This outcome really gives hope and a great alternative to patients who are struggling with managing their cholesterol levels. For an example, in my family, my father, mother, and younger brother are all on allopathic prescription medication to manage their cholesterol levels. Taking the medication Lipitor Atorvastatin may give rise to mild side effects such as mild nausea, diarrhea, or mild muscle pain. More serious side effects may include stomach pain, jaundice, drowsiness, blurred vision, weight loss, weight gain, swelling, unusual tiredness, memory problems, confusion, or weakness. This medication can even cause allergic reactions such as swelling of throat, tongue, lips, face, difficulty breathing, or hives. In addition to all these possible symptoms, I feel that prolonged usage of prescription medications can cause long term permanent damage to the kidneys and liver. It seems, with all these negative side effects, it would be wiser to take something more natural like the holy basil.

As mentioned earlier, holy basil contains anti-inflammatory chemical compounds such as eugenol, a liquid component that is often found in clove oil. This makes holy basil a great remedy for treatment of acne. Since it has powerful antimicrobial properties which includes antibacterial, antifungal, and antiviral, it is very therapeutic to fight many skin disorders. Especially when used with coconut oil as a carrier, it can aid in better absorption into the skin and be even more effective as a natural acne treatment. In addition to eugenol being an

effective antimicrobial, it is also anti-oxidative, so it is very beneficial to the skin and help with free radicals. One benefit that cannot be left out about holy basil is that it is anti-cancer! A review study of the anti-cancer activity of basil found that it could be effective against breast cancer, lung cancer, skin cancer, and also demonstrates preventive effectiveness against oral cancer, stomach cancer, and liver cancer.

One study showed that application of an alcoholic extract of holy basil leaves reduced the number of tumors caused by a range of skin carcinogens. In a similar study, a water-alcohol based extract of holy basil had a decreasing effect on the tumor size and also had a positive impact on the survival rates of rats with melanoma. In other studies on stomach cancer, rats were induced with cancer cells in the stomach. This study showed that by consuming holy basil leaves in the diet, it decreased the incidence and prevented chemically induced stomach cancer in the rats. It seems that eugenol was the component that was effective against this chem-induced tumors of the stomach. More studies have been done to show that holy basil water extract is shown to be highly effective to fight against cancer cells in the mouth.

With so many illnesses and disorders this herb treats, we can see why the Hindus have nicknamed the holy basil “the incomparable one”, and it becomes clear why this herb is the most sacred herb of India. Last but not least, aside from all the medicinal properties that holy basil possesses, it also has some nutritional value. Although only recommended consumption in small safe doses, this herb does contain some vitamin C, about 25 mg of vitamin C per 100 g of leaves, and vitamin A. It also contains calcium phosphorus and iron in addition to chlorophyll and many other phytonutrients. When you put this herb next to modern medicine, it really stands up to its nickname of the “incomparable one”!