Claim:

Diabetes Mellitus affects many individuals in America. It is a growing epidemic in this country. There are two different types of diabetes; type I and type II. Type I diabetes is prevalent in children. Type II diabetes is usually adult onset, however it is becoming more prevalent in children now. This disease can be controlled through diet for type II patients, and for type I, insulin is necessary. Natural supplements and herbs have been recommended for many different diseases, but do they really work? We will look at garlic, an alternative treatment option for type II diabetes, and analyze how it works and if it is indeed effective.

What is Type 2 Diabetes:

Type 2 diabetes, also known as adult onset diabetes mellitus or non-insulin dependant diabetes mellitus, is a metabolic disease in which the body cannot effectively use insulin made by the pancreas. The insulin made is either not enough to regulate the blood glucose levels, or it cannot be readily used by the cells. 90-95% of diabetes cases are type 2 diabetes mellitus. This disease is typically diagnosed to patients who are over 40 years of age, but it is now becoming more prevalent in children. This can be linked to the growing epidemic of obese children. Obesity is a major factor in this disease. By losing weight, having a good diet, and exercising, one can reduce the prevalence of this disease, and also the severity. If left uncontrolled, type 2 diabetes may need to be regulated with insulin.

Details of Product Therapy:

The product used in many of the studies was a garlic powder tablet, given at 300mg twice a day. Some of the tablets were specified as time-released. The participants were on this regimen for two weeks or more.

Slow release capsules of dried garlic are a better choice for patients seeking garlic supplementation. The dried garlic tablets contain more properties of fresh garlic because some other methods of garlic supplementation involve the use of heat, and this can inhibit the formation of allicin.

For basic garlic tablets, the price for 100 capsules of 300mg tablets ranged from $3 to $10. The price varies, due to the type of garlic supplement (oil, dried garlic, fresh garlic, etc.) These garlic supplements can be purchased over the counter at pharmacies, or they can be ordered online. Many drug companies manufacture these supplement capsules, so they are readily available to consumers. This is a cheap alternative to other diabetic medications.
How it Works:

Garlic based preparations are known to reduce serum cholesterol levels in humans, inhibit cholesterol biosynthesis, decrease fasting blood glucose levels, and suppress LDL oxidation.

Allicin is thought to be the most physiologically active compound in garlic. HMG CoA reductase is the rate-limiting enzyme in cholesterol biosynthesis and it has been shown that the allicin-derived compounds inhibit the activity of HMG CoA reductase. A lot of the studies were not conducted to find relationships between diabetes and garlic, but were conducted to look at effects on cholesterol levels.

One study performed at the Cardiology Center in Moscow, Russia found that dried garlic tablets (Allicor), given to patients twice daily, showed a lowering effect on their fasting blood glucose levels. Another study mentions that the reason for garlic having a lowering effect on blood glucose is because allicin competes with insulin in the liver, therefore causing more insulin to become more bioavailable in the bloodstream for uptake in the cells.

Research Evidence:

The article on the effects of garlic on dyslipidemia in patients with type 2 diabetes showed that garlic does have beneficial effects in lowering serum cholesterol, which in turn causes benefits for the diabetic patient. It was a single blind, placebo controlled study, and the participants were type 2 diabetic patients. They were given a 300mg tablet of garlic, and the group who received the tablets had lower LDL cholesterol after the study was completed.

The article on metabolic effects of timed release garlic powder tablets in type 2 diabetes mellitus showed that there may be a reduce in cardiovascular risk in diabetic patients. This article was a double blind, placebo-controlled study over 4 weeks with 60 type 2 diabetic patients.

The article on use of alternative medicines was a randomized questionnaire group who all were diagnosed with diabetes mellitus and were either taking a medication, using a supplement, or were using an alternative medicine such as garlic. The group that was taking the garlic supplements did not have as great of an effect on their blood glucose levels as did the group taking the prescription medications. The study concluded that the use of garlic to control diabetes is not very effective.

The article on the significance of garlic in cancer and cardiovascular disease makes reference that the allicin in garlic acts as a free radical scavenger and increases antioxidant enzyme activity.

Bottom line:

There has been evidence from randomized control studies to support that there are a few benefits in garlic tablets for type 2 diabetic patients, but the studies were more beneficial in lowering cardiovascular disease risk, rather than having an effect on diabetes. There is insufficient evidence that garlic tablets have an effect on diabetes mellitus. Many of the studies showed a lowering in lipid levels or serum cholesterol, and that garlic played a role in decreasing atherosclerosis risk. The studies found were strong in relation to the evidence pyramid because they were randomized controlled studies, and they were not performed on rats. There were no meta analysis studies found
for the use of garlic as an alternative medicine. There has not been enough consistency in results for the effects of garlic on type 2 diabetes, therefore further research is necessary to draw a sharper conclusion.

References