



A Science of Medicine
The Art of Care

Is the use of Cinnamomum Cassia effective in the management of Diabetes Mellitus Type Two according to Unani-Tibb?

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Characterized by chronic hyperglycaemia due to absolute or relative insulin deficiency, Diabetes mellitus is a chronic, debilitating condition that has wide and far reaching consequences for sufferers. A lack of insulin affects the metabolism of carbohydrates, protein and lipids, and can cause a significant disturbance of water and electrolyte homeostasis.

Type Two Diabetes Mellitus is a heterogeneous group of conditions and symptoms. Also known as adult-onset diabetes, it encompasses insulin resistance and deficiency. Also, DM Type II is often characterized by obesity, hypertension and dyslipidaemia; it is mostly brought on by lifestyle factors and genetic factors.

Glucosuria occurs when blood glucose levels are above the renal threshold, which in the long run contributes to renal complications and failure if not treated properly. Vision is also affected due to uncontrolled glucose levels, leading to eyesight deterioration over prolonged periods. Hyperglycaemia and dehydration are also common symptoms associated with DM Type Two. Polydipsia, polyuria, and polyphagia have also been cited as common accompanying symptoms.

According to the Unani-Tibb philosophy, Diabetes can be classified as a Hot and Moist condition, with an overabundance of these two factors. This implies that an excess in any of these qualities will not only aggravate the condition and accompanying symptoms, but may lead to the development of diabetes as a causative factor. A prolonged overabundance of the Phlegmatic humour (excess moisture) leads to structural changes within the body by influencing the balance of the four humours required for optimal health.

The six lifestyle factors play a vital role in the management of diabetes. Lifestyle factors should be utilized in order to balance the four humours within the body, and aid Physis in repairing the body and restoring health. Whereas all lifestyle factors play an invaluable part in the management of diabetes, the two most important ones are diet and exercise, and this has also been underscored by Western medicine as the most effective ways of treating diabetes.

As diabetes is considered a Hot and Moist condition, the most appropriate treatment regime, as from the Unani-Tibb perspective, would be lifestyle changes that increase Dryness and Coldness. This would include a diet regime characterized by Drying and Cooling foods, as well as exercises that increase the Dryness levels in the body.

As part of the dietary changes, Cinnamomum cassia can be incorporated as it has a temperament of Dry and Hot. This herb gently warms and stimulates the metabolic processes, and it aids the liver in the production of Yellow Bile, which has a Temperament of Dryness. This dryness will aid in the expulsion of Phlegm, which has been linked to Diabetes.

Clinical studies have linked the various constituents of Cinnamomum cassia to various steps in the production and processing of both insulin and glucagon. These two hormones are the main ones affecting the blood glucose levels. Cinnamomum cassia activates insulin receptors by increasing their tyrosine phosphorylation activity.

Another symptom of Diabetes is hypercoagulation of blood platelets. *Cinnamomum cassia* has the ability to lower the release of arachidonic acid from cell membranes, which in turn decreases inflammatory responses of the body.

Studies have also focused on the secretagogic effects of cinnamic acid. The dual activity of this acid in insulin signalling implies that the acid and its derivatives activate insulin mediated glucose transport across cell membranes, thereby effectively lower blood glucose levels.

This potential application of the herb and its various areas of effect open new areas of investigation that would benefit from further research. As an alternative to conventional medicine, *Cinnamomum cassia* cannot be overlooked. This herb has the potential to offer cost-effective, alternative and complementary treatment options to one of the world's most serious health challenges..