

Metabolic Processes of Green Tea in Diabetes Mellitus Type 2

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Introduction:

Diabetes mellitus (DM) occurs when there are metabolic disorders, characterized by chronic hyperglycemia, due to poor insulin secretion and / or increased insulin resistance, lack of insulin production by β -pancreatic cells or a defect in their recipients. For DM type 2 (DM2) or non-insulin dependent (insulin resistance and / or in combination with deficiency of hormone secretion) there is pharmacological therapy with oral antidiabetics, however over time herbal therapy has increased significantly due to the low incidence of adverse effects compared to the medications. Teas are one of the population's choices. Green tea, from the *Camellia sinensis* L. plant, is used in DM2 because it has several compounds that interact with several metabolic pathways related to DM2, thus contributing to decrease elevated blood glucose levels. Among these compounds we highlight the methylxanthines and, in particular, the phenolic compounds.

Objectives:

The objective of this study is to analyse metabolic processes in which green tea is involved in DM2.

Methods:

Systematic review of the literature, selecting articles between 2012 and 2018, without language restriction.

Results:

Green tea is shown to participate in metabolic processes such as inhibition of the α -amylase enzyme; antioxidant activity; inhibition of COMT (catechol o methyltransferase); stimulation of GLP-1 (glucagon-like peptide-1); stimulation of β pancreatic cells; the inhibition of AMPK (adenosine monophosphate-activated protein kinase) and further increases lipid oxidation and thermogenesis.

Conclusions:

Green tea demonstrates efficacy in the phytotherapeutic treatment of type 2DM.