

Functional foods in the treatment of type 2 diabetes: olive leaf extract, turmeric and fenugreek, a qualitative review

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Submission date: October 12, 2011; Acceptance date: November 29, 2011; Publication date: November 30, 2011

Abstract

Almost 30% of US residents ages 65 and older have diabetes. The cost of diabetes care was estimated at \$174 billion in 2007, including \$116 billion in additional medical costs, and \$58 billion in reduced productivity. Globally, the estimated cost of diabetes care was \$376 billion in 2010, representing 12% of health expenditures. Many individuals with diabetes make use of functional foods, nutritional supplements, and/or herbal remedies to manage their disease. The functional foods olive leaf extract, turmeric, and fenugreek are commonly used in traditional medicine systems to manage diabetes. All three of these functional foods have antioxidant and anti-inflammatory properties as well as specific insulin sensitizing qualities. In vitro studies offer proof of mechanism, and animal studies consistently show treatment efficacy for all three foods. The few human studies that have been conducted, however, use surrogate rather than clinical endpoints. The establishment of these and other functional foods as evidence based interventions for diabetes requires well designed, adequately powered, and randomized controlled pivotal trials with clinical endpoints.

Keywords: type 2 diabetes, olive leaf extract, turmeric, and fenugreek