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Abstract

Title: The effect of a vegan diet on triglycerides, HbA1c and weight in people with type 2 diabetes – A systematic review

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Background
Today 4-5% of the Swedish population suffers from the lifestyle-related disease type 2 diabetes. Links has been seen between incidence of type 2 diabetes and dietary habits of which diet is a cornerstone during treatment. Today energy restriction is often required when treating type 2 diabetes to influence insulin sensitivity. It is rather an effect of weight loss compared to components in the diet. Food with low energy density that is nutritious and with high-fiber can lead to a natural energy restriction and thus have a positive impact on insulin sensitivity. Vegan diets have these qualities and could lead to an energy restriction when ingested ad libitum.

Objective
To examine the long term effect of a vegan diet on triglycerides, HbA1c and weight, as well as the short-term effects on postprandial triglycerides in individuals with type 2 diabetes.

Search strategy
The literature search was conducted in PubMed, Scopus and Cochrane.

Selection criteria
Overweight adults diagnosed with type 2 diabetes.

Data collection and analysis
A total of 37 articles with appropriate titles were selected for closer examination of abstract. Of these, 34 articles were excluded. This systematic review is based on three studies. Two long-term studies with low to mid high quality, and one short-term study with mid high quality.

Main results
There is low evidence (+++) that a low fat vegan diet has positive long-term effects on HbA1c and weight in people with type 2 diabetes. In the long term studies, HbA1c was reduced by -1.0 and -0.6 percentage points, and weight with -6.0 and – 3.0 kg in the intervention groups. However, no statistically significant difference was detected between groups in one of the studies regarding these outcomes. There is no evidence (+) regarding the long term effects of a low fat vegan diet on triglycerides. Regarding postprandial triglycerides, there is moderate evidence (+++) that vegan diet has positive effects, though based on only one study.

Conclusions
The positive outcomes are likely to be linked with the existing dietary recommendations in diabetes treatment. We should continue to recommend a high intake of fruits, vegetables, simple and polyunsaturated fats and reduced intake of red meat. From a sustainability perspective, it is also beneficial to increase the intake of vegetables, which have less environmental impact than animal products. More studies are needed on the effect of the vegan diet on triglycerides, HbA1c and weight in people with type 2 diabetes.

Keywords: Diabetes mellitus type 2, Veganism, Vegan diet, Plant Based, HbA1c, Glycemic Control, Weight Loss, Blood Lipids, Triglycerides