Abstract

Title: Meeting with a dietitian: a successful concept to improve metabolic control in patients with type 2 Diabetes Mellitus – A systematic review

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Background: Diabetes can be considered the pandemic of the 21st century and its spread is related to economic progress and lifestyle changes around the globe. The prevalence reaches 8.8% of the adult population and is predicted to increase even further. Since diabetes is a chronic disease that demands treatment through all stages of life healthcare systems should offer medication and customized education to patients and their relatives to increase knowledge and self control. The diagnose Diabetes Mellitus is split into two types that are based on different metabolic problems that in the end causes hyperglycemia caused by lack of insulin production in pancreas or lack of insulin tolerance in the body’s cells. The autoimmune type of diabetes is called type 1 (T1DM) and makes the patient dependent to inject insulin since the body no longer can create any or enough on its own. The majority of patients diagnosed with diabetes however has type 2 (T2DM), which is a long-spun form of insulin resistance usually caused by poor lifestyle.

Objective: To examine the current scientific evidence of the effects on glycemic control by dietitian led lifestyle changes in adult patients with T2DM compared to standard care.

Search strategy: A systematic literature search was conducted in Pubmed and Scopus. The following terms was used in different combinations: “dietitian”, “diabetes type 2”, “blood glucose”, “BMI”, “weight”, “weight loss” and “randomized control*”.

Selection criteria: RCT studies conducted on adult (>19 years) T2DM patients measuring the effects of HbA1c and BMI based on dietitian led lifestyle intervention has been included. Studies where the interventions included energy restriction has been excluded.

Data collection and analysis: After searches in databases articles were selected and thoroughly reviewed according to the Swedish Agency For Health Technology Assessment And Assessment Of Social Services (SBU) randomized control study review template. Lastly five articles were accepted and graded based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system.

Main results: The results are based on four randomized controlled studies with a total of 634 participants. All studies reviewed showed unanimously results related to reduced HbA1c compared to standard care. Most studies found statistically significant results (p<0.05) in advantage to patients included in the intervention groups compared to standard care regarding HbA1c. There was not statistically significant results regarding BMI due to both intervention and control groups lost weight which indicates that the standard care is good.

Conclusion: The scientific evidence that dietitian led lifestyle intervention leads to improved glycemic control in adult T2DM patients is high (++++) and high (++++) there is moderated strong scientific evidence (++) that nutrition treatment given by a registered dietitian with the goal to improve the metabolic control lacks significant differences in BMI in patients with T2DM. This applies when there is no energy restriction required.

Keywords: Diabetes type 2, dietitian, nutrition therapy, HbA1c, BMI, blood glucose control.