Abstract

Title: Remission of type 2 diabetes - The effect of intensive weight loss programmes

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Programme: Programme in dietetics, 180/240 ECTS
Type of paper: Bachelor’s thesis in clinical nutrition, 15 higher education credits
Date: March 27, 2018

Background: Diabetes is considered a chronic and disabling disease and it is listed as number six amongst factors leading up to reduced number of years lost due to ill-health, disability or early death by the World Health Organization. However, several studies have shown that people with type 2 diabetes can achieve remission with a lifestyle treatment, including weight loss, if initiated early after being diagnosed.

Objective: To investigate the effect of intensive weight loss programmes on remission of type 2 diabetes in newly diagnosed individuals compared with regular diabetes treatment.

Search strategy: Literature searches were conducted in databases PubMed and Scopus. Search terms were remission, diabetes mellitus type 2, weight loss and calorie restriction.

Selection criteria: Inclusion criteria were RCT studies, adults > 18 years diagnosed with type 2 diabetes with a duration of <6 years. Exclusion criteria were previous insulin therapy and treatment with bariatric surgery.

Data collection and analysis: The identification of studies was performed in two steps; studies that did not meet the inclusion criteria were excluded by title or abstract, remaining studies were examined in full text. Grading of the two articles were performed with SBU’s quality assurance template for randomized studies by two independent reviewers. Separate grading of evidence was performed according to GRADE.

Main results: Two studies met the eligibility criteria. One featuring a more moderate intensity weight loss programme combined with drug treatment (high quality study), and another with a high intensity weight loss programme by use of low calorie diet (LCD) (high quality study). Both studies showed that it is possible to achieve remission with an intensive weight loss program. However, one study had low precision and low transferability resulting in a lower grade of evidence.

Conclusions: There is insufficient evidence (+) whether a intensive weight loss programme, together with drug treatment, leads to remission at an early stage of type 2 diabetes. There is moderately strong evidence (++++) that an intensive weight loss program using low calorie diet (LCD) leads to remission at an early stage of type 2 diabetes in people with overweight or obesity, compared to regular routine. Generalizability is still limited due to short follow-up period (52 weeks), but the results are highly relevant in the short term.

Keywords: Remission, Diabetes Mellitus type 2, Weight loss, Calorie restriction