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A Multidisciplinary Weight Reduction Program in Overweight Type 2 Diabetic Patients

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Introduction

Achieving weight reduction and to maintain weight loss is vital for the overweight Type 2 diabetes (T2DM) patients.

Objectives

To examine two different weight reduction meal plans for the overweight T2DM subjects.

Methodology

It is a randomized, non-blinded, single center trial of a meal replacement group (MR) versus dietary prescription group (DP) over 24 weeks. MR subjects would replace at least one meal with a 300kcal meal choice. DP Meal plan is based on healthy eating principle. Both groups were targeted to achieve a daily > 500kcal energy deficit. Both groups received 10 individual sessions with endocrinologist, dietitian and diabetes nurse for approximately 200 minutes within 24 weeks. Dietitian would provide an extra individual consultation at 52 weeks.

Result

From February 2014 to December 2015, 50 subjects with an average 12 years of T2DM were recruited. The average age of the MR group was 51.8 (n=27) and DP group was 55.3(n=23). The average BMI and % Body fat for the MR group were 32.4 kg/m² and 36 % while DP group were 30.6 kg/m² and 36.1% . Mean weight loss of MR group was 2.05kg ±2.76kg at 24 weeks (p= 0.003). DP group's mean weight loss was 2.09 kg±2.34kg at 24 weeks (p=0.000). There was no significant difference in weight loss between two groups. In comparison, mean weight loss for patient who attended traditional DM class with follow up session at 12 weeks was 0.85kg only. The MR group's mean Carbohydrate (CHO) intake experienced a sharper decrease from week 0 to week 4 and became static. However, the DP group had their calorie and CHO intake reduced further till week 24. The HbA1c improved

by 0.3-0.5% for both groups at week 24, with no significant difference between 2 groups. For those on insulin, the daily insulin dose reduced by an average of 10 units among users (n=15). The MR or DP were equally effective in achieving weight loss of around 2kg. After the study, we have incorporated the simple MR 300kcal meal replacement block and DP's healthy eating principle to provide a comprehensive weight reduction diet plan for the patients.