Metabolic Syndrome

EFFECT OF A NUTRITIONAL AND BEHAVIORAL INTERVENTION ON ENERGY-REDUCED MEDITERRANEAN DIET ADHERENCE AMONG PATIENTS WITH METABOLIC SYNDROME:

JAMA. 2019;322(15):1486-1499

Excess caloric intake and poor nutritional quality are associated with overweight and obesity. A traditional Mediterranean diet has been shown to reduce all-cause mortality, and in particular to reduce risk of cardiovascular disease, type 2 diabetes mellitus and overweight.

The aim of this randomised, prospective, single-blinded study was to evaluate the effectiveness of an intensive lifestyle intervention programme in 6874 overweight or obese men and women with metabolic syndrome in Spain. The intervention group was advised on an energy-reduced Mediterranean diet and exercise and received behavioural support, with initial group sessions and interviews, and monthly follow-up phone calls for one year. The control group received advice on a Mediterranean diet and usual care, with 6 monthly follow-ups.

After 12 months, the more intensively counselled patients showed a significantly better adherence to an energy-reduced Mediterranean diet than the control group. They had greater reductions in refined grains, pastries, red and processed meats and greater increases in vegetable, fruit and nut consumption than the control group. The intervention group had also better improvements in cardiovascular risk factors.

NON-NUTRITIVE SWEETENERS AND THEIR IMPLICATIONS ON THE DEVELOPMENT OF METABOLIC SYNDROME.

Liauchonak, I ; Qorri, B ; Dawoud, F ; Riat, Y ; Szewczuk, MR,. Nutrients. 2019;11(3)

Artificial sweeteners, such as aspartame, neotame, saccharin, sucralose, and stevia are widely promoted as low-calorie alternatives to sugar and are known as non-nutritive sweeteners (NNS). Generally, they have been considered as a healthy option to replace sugars, but data is emerging that they may influence obesity and metabolic syndrome (METs) and contribute to the development of type II diabetes.

These non-nutritive sweeteners can be thousands of times sweeter than sugar and have been widely adopted by the food industry to help reduce calories, and promote weight loss and diabetic products. It is believed that 25% of children and 41% of adults consume low-calorie sweeteners regularly, with the beverage industry relying heavily on them. However, it is now been shown that these sweeteners can cause imbalances to gut bacteria and interact with taste receptors and insulin signalling.

These findings mean that artificial sweeteners may trigger the same hormonal response as sugar by releasing insulin and overtime lead to insulin resistance, obesity, and overall metabolic syndrome. Finally, there is evidence that our body develops a learned response to sweeteners which paradoxically leads to weight gain.

NEW INSIGHTS ABOUT HOW TO MAKE AN INTERVENTION IN CHILDREN AND ADOLESCENTS WITH METABOLIC SYNDROME: DIET, EXERCISE VS. CHANGES IN BODY COMPOSITION. A SYSTEMATIC REVIEW OF RCT.

Albert Pérez, E ; Mateu Olivares, V ; Martínez-Espinosa, RM ; Molina Vila, MD ; Reig García-Galbis, Nutrients. 2018;10(7)

Metabolic Syndrome is the term used to group a cluster of health concerns including overweight, obesity, hypertension, elevated cholesterol, blood glucose intolerance and insulin resistance which together can contribute to the development of Type II Diabetes and Cardiovascular Disease. Diagnosis is usually given if a patient has three or more of these conditions however the diagnosis in children and adolescents is often inconsistent, and so guidelines for therapeutic strategies for metabolic syndrome also vary greatly.

This review looked at 9 studies of children aged up to 19 years old, all diagnosed with metabolic syndrome, and given dietary, physical, psychological, and pharmacological interventions, to try and understand what the best clinical approach might be. It was found that a balanced diet combined with aerobic and resistance exercise helped to significantly reduce body mass, more so than the trials which included treatment with Metformin.

A balance diet included calorie restriction and carbohydrate reduction, carefully planned around the daily exercise program of 2-3 resistance sessions each week and frequent cardio sessions of differing intensity and duration. They concluded that a minimum of 6 months was needed to reach optimal weight loss and body fat loss. Overall, the findings of this study support diet and physical exercise as beneficial clinical interventions, whilst the use of medication is still unclear.