**Does Adding Fibre To A Calorie-Restricted Diet Aid With Weight Loss?**

Researchers are uncovering more benefits of a fibre-rich diet or fibre supplements for overall well-being. Of particular interest is fibre with prebiotic properties, which support and fuel the good microbes in the gut.

But can fibre offer additional benefits for weight loss when added to a calorie-restricted diet?

**Background**

Research has linked the composition of the gut microbiota to obesity, type 2 diabetes and cardiovascular disease. It’s been theorised that a change to the gut microbiota may help to reduce obesity-related risk factors and improve health.

Specific dietary fibres have been shown to affect the make-up of the microbiome. Two of these fibres are inulin from chicory root and resistant maltodextrin from corn or wheat starch.

Energy restriction is a commonplace strategy for obesity management. Research has shown that supplementing with dietary fibre can decrease energy intake and body weight. However, there is a lack of research into the combination of energy restriction with dietary fibres.

Researchers wanted to investigate the effect of prebiotic fibres combined with an energy-restricted diet on weight loss, body composition and the gut microbiome.

**The study**

The researchers designed 12-week randomised double-blind controlled trial. Participants were adults with a BMI between 28-45 and a blood haemoglobin concentration higher than 7.0mml/L.

Exclusion criteria included medication use for dyslipidaemia, type 2 diabetes, hypertension or antibiotics within 3 months prior, serious chronic disease, surgical treatment for obesity, 10+hrs of strenuous exercise weekly, pregnancy and lactation, vegetarian or veganism and known food allergies to any components used in the supplements.

116 participants were assigned randomly to the intervention or control group. The intervention group consumed 10g inulin and 10g resistant maltodextrin per day, and the control group took a 20g placebo supplement daily. Both groups took their supplement in 400ml of milk while on a diet with a 500kcal deficit daily.

Baseline readings and measurements were taken for body weight and composition, gut microbiota composition, glucose and lipid metabolism and inflammatory markers. Blood pressure, breath hydrogen, physical activity levels and gastrointestinal symptoms were also taken.

**The findings**

86 participants completed the trial. There were no significant differences in weight loss or body composition between the two groups.

The intervention group saw a significant reduction in systolic and diastolic blood pressure, with an average reduction of 5.35mm/Hg systolic and 2.82mm/Hg diastolic. There was also a larger decrease in serum insulin in the placebo group compared to intervention. These effects were mainly observed in female participants.

Intake of the fibre supplements induced changed in the composition of the gut microbiota. There was a higher abundance of *Parabacteroides* and *Bifidobacteria* in the intervention group compared to the placebo group.

The intervention group did experience a higher degree of gastrointestinal symptoms, but these diminished over time.

**Conclusions**

Researchers concluded that supplementing with inulin and resistant maltodextrin did not provide any additional weight loss benefits during an energy-restricted diet.

However, the supplements did reduce both systolic and diastolic blood pressure, and stimulated growth of potentially beneficial bacteria.

Further studies are required to explore the nature of the relationship between dietary fibres combined with energy restriction and weight loss.

**Reference**

Hess, A.L., Benítez-Páez, A., Blædel, T., Larsen, L.H., Iglesias, J.R., Madera, C., Sanz, Y., Larsen, T.M. and MyNewGut Consortium, 2019. The effect of inulin and resistant maltodextrin on weight loss during energy restriction: a randomised, placebo-controlled, double-blinded intervention. *European journal of nutrition*, pp.1-18.