

Utilising a real-time continuous glucose monitor as part of a low glycaemic index and load diet and determining its effect on improving dietary intake, body composition and metabolic parameters of overweight and obese young adults: A randomised controlled trial

ABSTRACT

A randomised controlled trial to measure the effects of integrating real-time continuous glucose monitor (rtCGM) into a low glycaemic index (GI) and glycaemic load (GL) dietary intervention on dietary intake, body composition and specific metabolic parameters was carried out. A total of 40 overweight young adults [(means \pm SD) age: 26.4 ± 5.3 years, BMI: 29.4 ± 4.7 kg/m²] were randomised into an intervention and control groups for a period of eight weeks. Both groups received nutrition education on low GI and GL foods. The intervention group also received an rtCGM system to monitor their glucose levels 24 h a day. While controlling for physical activities and GI and GL nutrition knowledge, the results indicated that the rtCGM system further improved body weight, BMI, fat mass, fasting plasma glucose, HbA1c, total cholesterol, HDL cholesterol and LDL cholesterol in the intervention group ($p < 0.05$). This trial unveils the robustness of the rtCGM where non-diabetic overweight and obese young adults can benefit from this device and utilise it as a management tool for overweight and obesity and a primary prevention tool for type 2 diabetes, as it provides real-time and personalised information on physiological changes.