

Evaluating the Efficacy of Low-Carbohydrate Dietary Interventions in Type 2 Diabetes Management: Results from the Modality Airedale, Wharfedale and Craven (AWC) and Modality Wokingham Diabetes Reversal Programmes

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Background:

Type 2 Diabetes Mellitus (T2DM) is a global health concern, leading to serious complications and increased morbidity and mortality. This study explores the outcomes of two Modality Partnership diabetes management programmes: Modality AWC and Modality Wokingham Diabetes Reversal Programme (DRP).

Methods:

The Modality Airedale, Wharfedale and Craven (AWC) Programme is a 3-month initiative for patients with T2DM, led by a general practitioner (GP) and a Low-Carb Health Coach Champion. The Modality Wokingham DRP is a 12-month, repeatable, virtual coach-led programme delivered via a smartphone app. It includes weekly coaching and three GP-led group education sessions. Both programmes monitor participants' blood pressure, weight, HbA1c, and lipid levels, with additional liver and renal function tests as needed. The Modality Wokingham programme also gathered data from the NHS's Buckinghamshire, Oxfordshire, and Berkshire West Integrated Care System (BOBICS) to evaluate A&E attendance.

Results:

In the Modality AWC programme, 40 patients achieved an average HbA1c reduction of 9.9mmol/L, weight loss of 6.2kg, a decrease in alanine aminotransferase (ALT) of 10.3U/L, and a total cholesterol reduction of 0.15mg/dL. Notably, 50% of patients with slightly increased cholesterol experienced reduced triglycerides, indicating improved metabolic health. Additionally, five patients discontinued diabetes medication during the programme. In the Modality Wokingham DRP, 179 patients achieved an average HbA1c decrease of 5.5mmol/mol over 12 months, along with improvements in weight and lipid profiles, and 90% of hypoglycaemic medications were discontinued. Moreover, DRP participants had a 37.7% lower A&E attendance rate than the broader Berkshire West area, equating to 127 fewer visits per 1,000 patients.

Conclusions:

Both DRP programmes show significant potential for improving T2DM management, supporting weight loss, reducing medication dependence and reducing A&E attendance. These interventions offer a promising approach to sustainable diabetes care. Further research is needed to explore long-term outcomes, adherence, and scalability of these programmes across different populations.