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BDA The Association of UK Dietitians Diabetes Specialist Group

Review of the NHS Low Carb Program App
A Diabetes Dietitian's Perspective

The Low Carb Program App is available via the NHS library. It is important to note it carries a 'No Badge' status which means it meets NHS quality standards for safety, usability and accessibility but is not currently being tested by the NHS for clinical effectiveness[1].

The Low Carb Program App[2] is a 15-week course of video lessons, handouts, recipes and a moderated discussion forum for support. It gives clear video explanations of what Type 2 diabetes is and a positive message about changing lifestyle for improving control of Type 2 diabetes, with a wealth of practical advice and tips.

Portion control is encouraged starting with the plate model illustrating ½ veg, ¼ starchy carbohydrate (120-150g a day) and ¼ protein. There is the option to reduce daily carbohydrate intake down to a 'ketogenic diet' amount of 30-50g carbohydrate later in the course. Increased vegetable intake is encouraged and recipes and tasty cooking methods included.

The App is very clear about reducing sugary and processed foods and reducing reliance on meat. It encourages cooking from scratch at home and increasing healthy whole foods such as lean protein sources, vegetables, pulses, nuts and seeds. The course handouts include swaps for popular starchy carbohydrates, processed and high sugar foods and offers practical advice for the real world such as portion size guidance, snacks, alcohol, sugary drinks and desserts, eating out and takeaways. Each week of the program provides 7 days of menus with shopping lists, including vegan, vegetarian and Indian options.

The benefits of exercise are discussed in several places. Participants are encouraged to start with small exercise goals such as 10 minutes twice a week or an at-home exercise plan and subsequently encouraged to gradually increase these goals.

It is acknowledged that change takes time and the program includes small goals and behavioural tips. The final 4 weeks of the course cover mindfulness and mindful eating, stress management/reduction and mental well-being and include exercises on all these topics. Progress tracking is encouraged with food diaries, exercise plans, personal measurements and blood glucose testing.

A forum offers support and questions are answered by facilitators giving hints and tips. The forum also prompts patients when they should go to their GP for clinical advice.

There are some areas of concern surrounding the advice given on carbohydrates, fats, intermittent fasting, medication and program cost.

The assertion is made that not all calories are equal and that the hormonal response to carbohydrates promotes weight gain. Low carbohydrate diets are promoted as having better adherence than other diets and as being most effective for weight loss and treatment of Type 2 diabetes. The course also claims that low carbohydrate diets increase energy and brain function and can reduce other medical conditions such as Crohn's, Alzheimer's and Parkinson's Diseases.

The BDA policy statement on Low Carbohydrate diets in Type 2 diabetes[3] states that low-carbohydrate diets can be effective in managing weight, improving glycaemic control and cardiovascular risk in people with Type 2 diabetes in the short term, but that this is probably due to the accompanying reduction in energy intake[3]. There is insufficient evidence to indicate that low carbohydrate diets offer a superior approach for weight loss and maintenance in the long term.

A recent systematic review and meta-analysis[4] found that a large number of trials have reported conflicting results regarding the effect of restricting carbohydrate on glycaemic control. There was no overall pooled effect on HbA1c in favour of restricting carbohydrate; however, restriction of carbohydrate to 50-130g per day had beneficial effects on HbA1c in trials lasting up to 6 months. Lack of adherence to all diets was found to be a limiting factor in this study.

There are also some problematic statements related to fats. The program tells people to ignore advice given by other health professionals on fats and states that there is no evidence that high cholesterol levels cause heart disease. The program defines healthy sources of fats as nuts, seeds, olive oil, oily fish and also full-fat dairy, fatty cuts of meat and the skin on chicken.

However, when considering the recipes provided and their portion sizes, together with the advice to cut processed foods, takeaways, snacks, desserts and meat, the program is likely to reduce total and saturated fat intake when compared with a typical Western diet. Much of the controversy around traditional low-fat diets is based on studies that do not consider the replacement nutrient[4], and this program does advise replacing fat with whole foods which are high in fibre rather than refined starchy carbohydrates.

There is advice to add fat to meals in places, for example to vegetables, but this is in the context of a very low carbohydrate diet and aimed at those who are not overweight or who have lost enough weight. The program claims that the diet reduces triglycerides and increases HDL. The BDA policy statement on low carbohydrate diets in Type 2 diabetes[3] states that there is some evidence to show that low carbohydrate diets affect these blood lipids in the short term, although this may be linked to weight loss. However, both low fat and low carbohydrate diets have also shown positive results in reducing CVD risk factors in Type 2 diabetes. More research is needed to confirm these short-term effects, as well as to demonstrate any longer term effects[3].

The Diabetes UK Guidelines for the Prevention and Management of Diabetes[5] state that a Mediterranean-style diet is an effective approach for weight loss and improved glycaemic control in Type 2 diabetes and is recommended to reduce CVD risk factors and events. An interesting consideration when looking at the recipes provided is that they have much in common with a Mediterranean diet. Red and processed meats, trans fatty acids, refined carbohydrate and sugar sweetened beverages are reduced, saturated fatty acids are partially replaced with unsaturated fatty acids, alcohol intake is limited and oily fish, fruit and vegetables, fish, nuts and pulses are increased. There is potentially an issue of reduction in healthy wholegrain and fibre, but in reality, this program starts with ¼ plate (120-150g) of unprocessed starchy carbohydrates and provides recipes rich in fibre.

Intermittent fasting is another problematic area. It is claimed that resting the pancreas through intermittent fasting increases insulin sensitivity, and that high carbohydrate breakfasts can cause individuals to feel hungrier for the rest of the day. There is no strong evidence for intermittent fasting[4] and there may be concerns about client groups with disordered eating.

Care also needs to be taken by patients making large changes to their diet who are taking any medication which could cause hypoglycaemia. This is would also be the advice for anyone considering major dietary changes, such as in a traditional slimming group, and the program starts by asking participants to consult their GP and provides a handout detailing those medications which could potentially cause a hypo.

Finally, there may be an issue of cost, availability of food and finding ingredients for the recipes in areas of food poverty. However, it is possible that some of the costs could be cancelled out by saving on takeaways, snack foods and processed foods.

In conclusion, there is much to like about this program. Following the program will support individuals to improve the quality of their diet, lose weight and likely improve their diabetes control. However, some of the statements made surrounding the benefits of a low carbohydrate diet and those regarding dietary fats lack evidence and would be better replaced with more evidence-based advice around reducing refined carbohydrates and following a moderated calorie intake from a Mediterranean-style diet.

References

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