

Committee Members for the Inquiry into the Role of Diet in Type 2 Diabetes Prevention and Management

Via Committee Chair

Education and Health Standing Committee

Legislative Assembly Committee Office

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Dear Committee Members

RE: SUBMISSION FOR THE INQUIRY INTO THE ROLE OF DIET IN TYPE 2 DIABETES PREVENTION AND MANAGEMENT

I am a gestational diabetes specialist based in the Czech Republic involved with our guidelines on gestational diabetes (“GDM”).

I understand that your inquiry is interested about ‘restrictive diets’ for diabetes management including GDM.

Former Czech guidelines for the treatment of GDM recommended 250 grams of carbohydrates split into 6 portions. Carbohydrate intake below 200 grams per day was not recommended due to concerns about gestational ketosis. The presence of ketone bodies was, according to some studies, associated with risks for the offspring. However, this level of carbohydrate intake required insulin treatment in a significant percentage of patients with GDM (30-50%).

The Czech guidelines had been amended in 2016 on the basis of accumulating evidence of better results in diets with low glycaemic load. Other studies have demonstrated the physiological role of ketone bodies for the needs of pregnancy, and foetal/neonatal nutrition. At the same, it turned out that previous studies linking the presence of ketone bodies with the risks for the offspring looked at diabetic ketoacidosis together with hyperglycaemia in pregnant women with diabetes, mainly Type 1 Diabetes, not at physiological gestational ketosis. The presence of ketone bodies in a woman with satisfactory glycaemic control of GDM (ie. normoglycaemia) is part of physiological gestational ketosis.

A lower carbohydrate intake (current Czech guidelines up to 200 grams per day without a low limit) resulted in a significant decrease of medication requirements (fewer than 10 % of women with GDM) and satisfactory glycaemic control of GDM with dietary changes only. Carbohydrate intake is individual – many women achieve good glycaemic control after eliminating free sugars and foods with high glycaemic index, but they can still enjoy normal portion of carbohydrate side dishes. In some women, side dish portions are reduced more, which helps avoid the need to prescribe insulin. Diet shall contain quality sources of protein and fat and vegetable is recommended with every meal. Dietary change results in optimum weight gain and enables physiological foetal growth.

The current Czech Diabetology Society guidelines for GDM include the following description of a low carbohydrate diet:

"Diet eliminating added sugars, restricting starches, with limited intake of fruit, and sufficient intake of quality fats, proteins and vegetable leads to better glycaemic control in GDM and provides adequate nutrition for mother and foetus without the need for preventative supplementation."

CDS (2017) http://www.diab.cz/dokumenty/DP_GDM_2017.pdf

a. The use of restrictive diets to eliminate the need for type 2 diabetes medication

There are no specific concerns as long as the diet contains sufficient calories and essential nutrients. Carbohydrates are not essential, and that applies to pregnant women, too. Finally, dietary treatment of GDM involves a lower – not zero – carbohydrate intake.

The benefits of a low carbohydrate diet include glycaemic control without medications, which results in satisfied patients, setting healthy eating habits and a lack of negative side effects of medication – in the case of insulin, this means a lower risk of hypoglycaemia, greater weight gain and associated worsening of insulin resistance. Women on medications are also perceived as higher risk by obstetricians. This leads to birth induction before term, higher rate of C-sections and other interventions.

Further information and details can be provided upon request.

Thank you for considering my submission to your inquiry.

Yours faithfully,

i.s. MUDr. Hana Krejčí, PhD