Description of the nutritional concepts of the dbcoach intervention

Mediterranean diets
Mediterranean diets have been shown to have beneficial effects on various non-communicable diseases including T2D.[1-3] In Mediterranean diets, vegetables, fruits, seeds, nuts, olives, herbs, and whole grains ideally form the basis of every meal. In addition, one consumes a moderate amount of dairy products, poultry meat, eggs and, of course, fish. Sweets and red and processed meat make up a small proportion of Mediterranean diets. Essential to Mediterranean diets is the choice of fat, not the absence of it. Thus, the use of olive oil as a source of fat is an important part of such diets.[4]

Energy-density diets
A reduction in dietary fats appears to be effective for T2D when weight loss is indicated and should be achieved.[5-7] As a consistent evolution of low-fat diets, energy-density diets reduce high-calorie foods with a high proportion of fat and sugar. Furthermore, these diets increase the proportion of low-calorie foods such as fruits, vegetables, legumes, rice, pasta, and low-fat protein sources, and reduce the proportion of high-calorie foods such as high-fat meats, high-fat cheeses, sweets, butter, and snacks such as crisps. This combination leads to increased satiety[8] with fewer calories and thus has a positive effect on weight trends.[9]

Low-carbohydrate diets
Low-carbohydrate diets result in less sugar being supplied to the organism, which directly lowers blood sugar and thus has a positive effect in subjects with T2D.[10-12]. In particular, omitting low-quality carbohydrates such as refined sugars and grains can significantly reduce the total amount of carbohydrates. Drastically reducing carbohydrates can often upset the balance of a person’s diet, since micronutrients may not be adequately supplied.[13] This is why moderate and plant-based carbohydrate reduction is recommended, which adheres to the Dietary Guidelines for Americans 2015–2020 regarding the intake of fruits, vegetables, and whole grains. This ensures that all plant-based minerals, vitamins and fibres are supplied in sufficient quantities. A meta-analysis by Seidelmann et al. [14] supports a balanced and plant-based low-carbohydrate diet. They showed that a plant-based low-carbohydrate diet high in plant proteins and fats is associated with a lower mortality compared to an animal-based low-carb diet rich in meat products.
Dietary Approaches to Stop Hypertension

Dietary Approaches to Stop Hypertension (DASH) are another form of low-fat diets. They are specifically designed to combat hypertension but also show positive effects for T2D. Animal fat and salt consumption should be reduced in DASH diets and replaced by lower-fat protein sources such as poultry, low-fat dairy products, legumes, and eggs. DASH diets focus on a generally low intake of fats and also use the energy-density principle. This means that foods with a lower energy content, such as fruits, vegetables, and low-fat dairy products, are preferred.[15]

In conclusion, carbohydrate quality is an important nutritional factor for controlling body weight and blood glucose, so it will initially be the focus of nutritional counselling in the IG until an even more individually tailored nutritional concept is chosen.[16-18] Ultimately, the different concepts can be combined very well depending on individual preferences with the goal of favourably influencing the diet of patients with T2D. The appropriate changes in dietary habits will be individually integrated into patients’ daily routines with the help of the personal health coach.
References


