

## EDITORIAL NOTE

**Diabetes Management**

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Diabetes is a long-term metabolic condition characterized by high blood sugar levels (hyperglycaemia). It is a primary cause of illness and mortality around the world, and its incidence is increasing at an alarming rate. Diabetes affected an estimated 463 million persons in 2019, with the number expected to rise to 783 million by 2045. The increasing prevalence of diabetes is a major public health concern, and it is essential to implement effective strategies for prevention and management. Diabetes management is a complex task that requires a multidisciplinary approach involving healthcare professionals, patients, and their families.

There is a growing body of evidence that lifestyle interventions, such as diet, exercise, and weight loss, can effectively prevent or delay the onset of type 2 diabetes. For people with diabetes, lifestyle interventions can significantly improve glycaemic control and reduce the risk of complications. In addition to lifestyle interventions, there is a range of pharmacological treatments available for diabetes. These treatments can help to control blood sugar levels and reduce the risk of complications. However, it is important to note that medications are not a substitute for lifestyle changes.

Diabetes management is a lifetime journey, and it is critical that persons with diabetes

have access to high- quality, comprehensive treatment. This care should include frequent blood sugar monitoring, diabetes self-diabetes management, management education, and support from healthcare professionals and other individuals with diabetes. In addition to providing individual care, it is also important to address the broader societal factors that contribute to the diabetes epidemic. These factors include unhealthy diets, physical inactivity, and obesity. Addressing these factors will require a combination of public health policies, community-based interventions, and individual behaviour change.

The management of diabetes is a complex challenge, but it is one that we can overcome with concerted effort. By working together, we can prevent diabetes, provide effective care to people with diabetes, and improve the quality of life for millions of people around the world.

**Key Points**

- Diabetes is a chronic metabolic disorder characterized by elevated blood sugar levels.
- The prevalence of diabetes is rising at an alarming rate worldwide.
- Diabetes management requires a multidisciplinary approach involving healthcare professionals, patients, and their families.
- Lifestyle interventions, such as diet, exercise,

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and weight loss, can effectively prevent or delay the onset of type 2 diabetes

- Pharmacological treatments are available for diabetes, but medications are not a substitute for lifestyle changes.
- The management of diabetes is a lifelong journey, and it is important for people with diabetes to have access to high quality, comprehensive care.
- Addressing the broader societal factors that contribute to the diabetes epidemic is essential for preventing and managing diabetes.

### **Functional Medicine Approach to Diabetes Management**

A functional medicine approach can help regulate glycaemic indices while also reducing many other health concerns.

#### **Nutrient considerations**

While medications might assist to normalise glucose levels, evidence indicates that diet-based methods may also be beneficial [1-6]. Dietary consumption of numerous nutrients, including zeaxanthin, lycopene and carotene was significantly lower in diabetic retinopathy

patients, indicating a possible link between carotenoids and the advancement of retinopathy [7].

As a precursor to vitamin A,  $\beta$ -carotene, along with lutein and zeaxanthin, has been found to reduce oxidative stress in ocular tissue in all populations, and it may slow the onset of cell death and mitochondrial dysfunction in diabetic patients, as well as reduce inflammation [8].

A variety of dietary therapies, including low carbohydrate dietary interventions, intermittent fasting, and ketogenic and Mediterranean diets (plant based, high in vegetables, fruits, whole grains, beans, nuts and seeds, olive oil) may help patients achieve T2D remission [9-13].

### **Importance of exercise and lifestyle interventions**

Exercise and diet therapies may outperform medications sometimes. The lifestyle intervention included an aerobic exercise programme as well as a food plan aimed at reaching a BMI of less than 25 [14].

In Functional Medicine, we encourage our patients to adopt healthy lifestyle practices, eating more high-quality food that are rich in phytonutrients and increasing physical activity.

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