

Keer Diabetes2 Om (Reverse Diabetes2 Now)

The Netherlands
&
Hong Kong

Short summary description of the practice

Reverse Diabetes2 Now is an intensive, multidisciplinary lifestyle treatment for people with diabetes type 2 developed by the Dutch foundation "Voeding Leeft". The treatment aims to reverse diabetes type 2, this means using less medication and/or having healthier blood glucose levels or achieve remission and too improve quality of life.

Participants are supported and empowered by providing knowledge and skills focusing on four pillars (nutrition, exercise, relaxation and sleep) to structurally adapt their dietary habits and general lifestyle. The lifestyle treatment consists of six intensive months, followed by an aftercare programme of 18 months.

It is a group-based programme (approximately 20 participants) guided by a multidisciplinary support team, including a nurse practitioner, dietician, personal coach and programme coordinator. A medical team including experienced nurses, GPs and internal medicine specialists is available for medical support. A participant can choose to follow the programme online or participate in physical meetings with supplementary online support.

Reverse Diabetes2 Now is a scientifically proven effective treatment (results published in the BMJ Nutrition, Prevention & Health) and reimbursed in The Netherlands to reverse type 2 diabetes. More than 3000 participants have already started this lifestyle treatment. Participants average programme rating is 8,9.

Overall goal and specific objectives

The overall goal of Reverse Diabetes2 Now is to reverse diabetes type 2. This means using less medication and /or having healthier blood glucose levels or achieving remission when possible (HbA1c < 48 and no glucose lowering medication) and to improve quality of life in people with diabetes type 2. The overall goal of Reverse Diabetes2 Now is in line with the targets set by the World Health Organization for non-communicable diseases.

Indicators

The following indicators are measured throughout the Reverse Diabetes2 Now programme: -The use of glucose lowering medication - HbA1c (mmol/mol) - Quality of life - Participant satisfaction - Weight (kg) - Waist circumference (cm) - BMI (kg/m²). In addition, we measure participants lipid profile (total cholesterol, LDL, HDL, triglycerides), fasting glucose, adherence to guidelines programme and levels of stress and anxiety.

Target population

The target population is patients with type 2 diabetes who are overweight (BMI > 25 kg/m²) and/or have an increased waist circumference and use glucose lowering medication. Participants should be aged 18-80 years and have access to the internet. It is also important that participants are motivated to change their lifestyle. The distribution of socioeconomic status and gender of participants is in line with the distribution of socioeconomic status and gender in the Netherlands (Pot et al., 2019). Participants are referred to the programme by their own health-care provider or they register directly via the website of the Reverse Diabetes2 Now programme. The programme indirectly positively affects family members of the participants, GPs, hospitals and employers.

Methodology

During the first six months of the programme five group-based programme days are organized. The first two programme days include an overnight stay. After 1, 3 and 6 months there are 'return days'. The programme and all components of the programme are based on the I-Change behaviour change model (De Vries, 2017) to achieve sustainable behaviour change on the central pillars of the programme: nutrition, exercise, relaxation and sleep. Participants receive biometric feedback, by routinely measuring their blood glucose levels after meals during the day. Every group of 20 participants is supported by a specialised team including a nurse practitioner, dietician, personal coach and programme coordinator. The programme can also be followed completely online, whereby the programme days are divided into several online meetings. The experiences and results are comparable to the physical programme. During the entire programme participants have access to an online community where they can contact other group members and support team to share experiences or ask questions. Information that helps the participants in their 'reversal process' (experiences, recipes, videos, background information, challenges, etc.) is also shared. After the first six intensive months there is an 'after care' period of 18 months. Participants can participate in optional activities in order to improve their reversal process or to prevent a setback.

Main outcomes

Based on the study of Pot et al. (results published in the BMJ Nutrition, Prevention & Health - 2020) after 24 months the main outcomes of the Reverse Diabetes2 Now programme are that 67% of the participants that provided information (n=234) used less glucose lowering medication of which 28% ceased all glucose lowering medication. Notably, 71% of insulin users at baseline were no longer using insulin at 24 months. Mean HbA1c levels were similar at 24 months compared with baseline (55.6 ± 12.8 vs. 56.3 ± 10.5 mmol/mol, $p=0.43$), but more responders had HbA1c levels ≤ 53 mmol/mol at 24 months (53% vs 45% at baseline). Furthermore, triglyceride levels (-0.34 ± 1.02 mmol/L, $p=0.004$), body weight (-7.0 ± 6.8 kg, $p<0.001$), waist circumference (-7.9 ± 8.2 cm, $p<0.001$), body mass index (-2.4 ± 2.3 kg/m², $p<0.001$) and total cholesterol/high-density lipoprotein (HDL) ratio (-0.22 ± 1.24 , $p=0.044$) were lower, while HDL ($+0.17 \pm 0.53$ mmol/L, $p<0.001$) and low-density lipoprotein-cholesterol levels ($+0.18 \pm 1.06$ mmol/L, $p=0.040$) were slightly higher. No differences were observed in fasting glucose or total cholesterol levels. Quality of life and self-reported health significantly improved.

National funding

In 2014 the first pilot for Reverse Diabetes2 Now was financed by the Dutch Ministry of Economic Affairs. In 2015 and 2016 an additional pilot was financed by a leading Dutch health insurance company. From 2017 to 2019 this health insurance company financed a larger research. From 2020 onwards the programme is financed under the Dutch Healthcare Insurance Act and health insurance companies reimburse the programme. Participants pay a contribution to participate in the programme. This contribution is for costs the health insurance company is not allowed to reimburse such as costs for meals during the programme. Participants with lower income are eligible to receive a discount on this contribution. The online programme also has a lower financial contribution. The programme has institutional support and human resources provided by the non-profit Foundation Voeding Leeft. Voeding Leeft provides training and staff to support the Reverse Diabetes2 Now programme.