



## Reducing HbA1c in Type 2 DM with Lifestyle & Behavioural Interventions

**Chhavi Mehra**

Department of Obesity and Overweight, Indian Institute of Science, Bengaluru, India

\*Corresponding author: Chhavi Mehra, Department of Obesity and Overweight, Bengaluru, India

Received date: October 03, 2021; Accepted date: October 14, 2021; published date: October 23, 2021

### Description

Type - 2 Diabetes is a chronic progressive lifestyle condition that has emerged as one of the most rapidly growing health challenges of the 21st-century. But until quite recently it was believed that Diabetes is irreversible and a lifelong affliction. There have been several trials and studies published on the effectiveness of bariatric surgery, intensive glucose-lowering pharmacotherapy and aggressive insulin therapy in improving glycaemic control and achieving remission of type 2 diabetes. However, there aren't many studies about Type 2 diabetic individuals being able to sustain this remission in the long term without depending on medications. This manuscript reviews the use of multifaceted and holistic interventions personalized for each participant and delivered one-on-one by diabetes coaches and educators over 90 days of the study, and its effectiveness in reducing glycaemic levels, body weight and their overall quality of life. Methods: A total of 32 participants matching the ADA specified criteria for type 2 diabetes diagnosis (HbA1c of 6.5% or over) were enrolled into the 3-month Sugar. Fit programme through a self-signup process. The study aimed to retrospectively evaluate the Sugar. Fit approach; a selection of lifestyle interventions, education and self-monitoring with or without involvement of pharmacological therapy. The manuscript focuses on evaluating the combined impact of the approach on HbA1c, fasting glucose, body weight and quality of life post 90 days from enrolment.

The findings on completion of the study showed that the Sugar. Fit approach led to significant improvements in glycaemic control with 67.8% of the users normalizing their Fasting Blood Sugar Levels, average reduction in HbA1c by 1.5 points and an average weight loss of 4.2 kgs in overweight participants over a 90 day period. Personalized diet, fitness and mental wellness interventions, along with educating and motivating an individual to make small changes to their routines resulted in a significantly improving both clinical and emotional parameters. It also shows the direct relationship between intervention adherence and outcomes, thus highlighting the potential of non-pharmacologic interventions in influencing positive clinical outcomes.

### Baseline Measurements

Following recruitment, participants were enrolled into the programme and assigned their own personal health coaches. Post-enrolment, a comprehensive assessment was done and baseline metrics were collected for metabolic and anthropometric/health characteristics like Body weight, height and waist measurements. This was correlated with current clinical condition, dietary habits, and preferences, level of physical activity, emotional state, personal interest, motivation, support system and willingness to engage in successfully completing the programme. All measurements were recorded after training the participant to follow a standardized process of taking them; like for e.g. "Body weight to be measured by the participant wearing light indoor clothing and without shoes using a digital scale." Both height and weight were measured to the nearest 0.1 cm and Body mass index (BMI) and waist: height ratio were calculated. Current dietary intake was assessed using three 24-h dietary recalls (2 weekdays and 1 weekend day) participants were asked to report all the medications being used (name of drug, frequency of use and dose). Current Physical state was assessed, categorizing users based on activity levels of their lifestyles. Comprehensive at-home diagnostic testing, was done comprising 70+ parameters including HbA1c, FBS, Renal and Liver Function Tests, Lipids, TSH and Vitamin Profiles, CBC, Urine Routine and more. Glucose monitoring devices (both flash and self-monitoring) were home delivered to all the participants to facilitate blood glucose monitoring and glycaemic control. They were given a Continuous Glucose Monitoring (CGM) sensor for the first 2 weeks from enrolment (Days 1 - 14) and a with strips and lancets for Self-Monitoring of Blood Glucose, starting post CGM and for the remainder of the pilot programme. (Days 15 - 90).

### References

1. Strasser B, Pesta D (2013) Resistance training for diabetes prevention and therapy: experimental findings and molecular mechanisms. *Biomed Res Int*.
2. Eves ND, Plotnikoff RC (2006) Resistance training and type 2 diabetes: Considerations for implementation at the population level. *Diabetes Care* 29: 1933-41.
3. Magkos F, Tsekouras Y, Kavouras SA, Mittendorfer B, Sidossis LS (2008) Improved insulin sensitivity after a single bout of exercise is curvilinearly related to exercise energy expenditure. *Clin Sci* 114: 59-64.
4. Irvine C, Taylor NF(2009). Progressive resistance exercise improves glycaemic control in people with type 2 diabetes mellitus: a systematic review. *Aust J Physiother* 55: 237-246.
5. Hood KK, Hilliard M, Piatt G, Ievers-Landis CE (2015) Effective strategies for encouraging behaviour change in people with diabetes. *Diabetes Manag* 5: 499-510.

**Citation:** Chhavi Mehra (2021) Reducing HbA1c in Type 2 DM with Lifestyle & Behavioural Interventions. *Endocrinol Diabetes Res* 7:10.