Teens and millennials with hyperglycaemia and the implications of tracking on glycaemic control.

Marco Marigliano*

Department of Pediatric Diabetes and Metabolic Disorders Unit, Regional Center for Pediatric Diabetes, University City Hospital of Verona, Verona, Italy

Abstract

Adolescents and young adults with type 1 diabetes had the lowest glycemic control of any age group with type 1 diabetes. Although continuous glucose monitoring (CGM) has been shown to improve glycemic control in adults, its benefit in adolescents and young adults has not been demonstrated Randomized clinical trial conducted Between January 2018 and May 2019, 14 endocrinology practises in the United States recruited 153 people aged 14 to 24 with type 1 diabetes and screening haemoglobin A1c (HbA1c) levels ranging from 7.5% to 10.9%. HbA1c change from baseline to 26 weeks was the primary endpoint. There were 20 secondary outcomes, which included additional HbA1c outcomes, CGM glucose measures, and patient-reported outcomes with multiple comparisons adjusted.

Keywords: Adolescents, HbA1c, Continuous glucose monitoring.

Introduction

In the T1D Exchange clinic registry, glycaemic management remained unsatisfactory in the majority of adolescents and young adults with type 1 diabetes, with just 17% meeting the 2019 American Diabetes Association's haemoglobin A1C (HbA1c) target of less than 7.5% and 14% meeting the objective of less than 7%. Continuous glucose monitoring (CGM) devices give users with real-time glucose readings, trends, and alarms to help them make diabetes treatment decisions. Although CGM has been found to enhance glucose control in adults, trials in adolescents and young adults have not shown an overall effect. These investigations made use of CGM devices from a previous generation.

Study management and supervision

This randomised clinical trial was carried out at 14 endocrinology practises in the United States [1]. Institutional review boards accepted the protocol and informed consent/assent forms that complied with the Health Insurance Portability and Accountability Act. Prior to participation, each participant and parent/legal guardian, where applicable, provided written informed consent with or without assent [2]. An impartial data and safety monitoring board oversaw the trial's examination of safety data. Supplement 1 contains the protocol and the statistical analysis strategy.

The assessment of safety

Severe hypoglycemia (defined as an event requiring the assistance of another person due to altered consciousness), hyperglycemia requiring evaluation or treatment at a health care provider facility or involving diabetic ketoacidosis, device-related events with potential effects on participant safety, and all serious adverse events regardless of causality were all reportable adverse events [3].

CGM metrics

The average proportion of time spent in the target glucose range of 70 to 180 mg/dL was 37% (9.0 h/d) at baseline and 43% (10.3 h/d) during follow-up in the CGM group, and 36% (8.7 h/d) in the BGM group (adjusted between-group difference, 6.9% [1.7 h/d] [95% CI Supplement 2 shows the percentages of time spent in the target glucose range during the day and night. The CGM group spent considerably less time in hypoglycemia (glucose 70 mg/dL) than the BGM group (adjusted between-group difference, 0.7% [95% CI, 1.5% to 0.1%]; P=0.002 [4,5].

Conclusion

Continuous glucose monitoring *versus* routine blood glucose monitoring resulted in a minor but statistically significant improvement in glycemic control over 26 weeks in adolescents and young adults with type 1 diabetes. Additional research is needed to establish the clinical significance of the findings.

References

1. Laffel LM, Kanapka LG, Beck RW, et al. Effect of continuous glucose monitoring on glycemic control in adolescents and young adults with type 1 diabetes: a randomized clinical trial. Jama. 2020;323(23):2388-96.

***Corresponding author:** Marco Marigliano, Department of Paediatric Diabetes and Metabolic Disorders Unit, Regional Centre for Paediatric Diabetes, University City Hospital of Verona, Verona, Italy, Email: marco.marigliano001@univr.it

***Received:** 19-Aug-2022, Manuscript No. AADY-22-82059; **Editor assigned:** 29-Aug-2022, PreQC No. AADY-22-82059 (PQ); **Reviewed:** 05-Sep-2022, QC No AADY-22-82059; **Revised:** 19-Sep-2022, Manuscript No. AADY-22-82059 (R); **Published:** 23-Sep-2022, DOI: 10.35841/aady-6.5.123*

***Citation:** Marigliano M. Teens and millennials with hyperglycaemia and the implications of tracking on glycaemic control. J Diabetol. 2022;6(5):123*

2. Wong CA, Miller VA, Murphy K, et al. Effect of financial incentives on glucose monitoring adherence and glycemic control among adolescents and young adults with type 1 diabetes: a randomized clinical trial. JAMA Pediatrics. 2017;171(12):1176-83.
3. DeSalvo DJ, Miller KM, Hermann JM, et al. Continuous glucose monitoring and glycemic control among youth with type 1 diabetes: International comparison from the T1D Exchange and DPV Initiative. Pediatr Diabetes. 2018;19(7):1271-5.
4. Herzer M, Hood KK. Anxiety symptoms in adolescents with type 1 diabetes: association with blood glucose monitoring and glycemic control. J Pediatr Psychol. 2010;35(4):415-25.
5. McGrady ME, Laffel L, Drotar D, et al. Depressive symptoms and glycemic control in adolescents with type 1 diabetes: mediational role of blood glucose monitoring. Diabetes Care. 2009;32(5):804-6.

Citation: *Marigliano M. Teens and millennials with hyperglycaemia and the implications of tracking on glycaemic control. J Diabetol. 2022;6(5):123*