

Abstract

Perceptions and Experiences of Using Intermittently Scanned Continuous Glucose Monitoring among Youth Ages 13–20 Years with Type 1 Diabetes and Above Recommended HbA1c: A Qualitative Study †

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Abstract: The experiences of youth with high-risk glycaemic control using intermittently scanned continuous glucose monitoring (isCGM) systems are not well known. In the context of a randomised controlled trial investigating a 6-month isCGM intervention, this sub-study aimed to explore the experiences of youth using isCGM for 6 months. Semi-structured interviews were conducted with 14 youth aged 14–20 years who had Type 1 diabetes for ≥ 12 months and a glycated haemoglobin (HbA1c) of ≥ 75 mmol/mol ($\geq 9\%$) pre-isCGM intervention. Interviews were recorded, transcribed and coded using Nvivo. A thematic analytic approach was used to identify key themes overall and by comparing participants who at 6 months had: (1) experienced a ≥ 10 mmol/L (0.9%) reduction in HbA1c and (2) sustained scanning frequency ≥ 3 /day to those who did not. All participants expressed a strong preference for isCGM over self-monitoring blood glucose. Overall, isCGM contributed to perceived reduced diabetes burden without a requirement for more support in diabetes management. Increased engagement with self-management, including successful changes in dosage of basal or bolus insulin and increased frequency of administration of insulin, were behaviours reported by those experiencing the greatest improvement in HbA1c (>10 mmol/L [$>0.9\%$], $n = 6$). They noted feeling more energetic, thus, making it easier to maintain self-management behaviours. Most youths reported best practices, such as following prompts to rescan in 10 min and timely sensor replacement; however, most did not check capillary blood glucose levels in recommended situations. Over 6 months, youth with high-risk diabetes experienced isCGM as a useful short-term tool for overcoming diabetes burden and facilitating self-management.

Keywords: continuous glucose monitoring; glycaemic control; qualitative research; adolescents; young adults; type 1 diabetes mellitus

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Data Availability Statement: The data are not publicly available due to their containing information that could compromise the privacy of research participants.

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Trial Registration: The randomized controlled trial was prospectively registered with the Australian New Zealand Clinical Trials Registry on 5 March 2018 (ACTRN12618000320257p).

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