ABSTRACT

Scoping Review: The Impact of CGM on Lifestyle-related Behaviour, Clinical, and Psychosocial Outcomes in Prediabetes and Type 2 Diabetes (Non-Insulin Therapy)

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Keywords: CGM, glucose monitoring, prediabetes, type 2 diabetes, lifestyle, health behaviour

Latest continuous-glucose-monitoring (CGM) devices provide blood glucose data through a topical sensor to the wearer's phone app in real-time (rtCGM). This information is presented numerically/visually to the wearer, with the option of alert alarms. While CGM is known to benefit type 1 diabetes patients who are generally insulin-dependent (Aronson et al., 2022), its impact on prediabetes patients, and type 2 diabetes (T2D) patients on non-insulin therapies (T2D-nIT), have yet to be established (Wright & Subramanian, 2021). This scoping review investigates CGM use and its association with lifestyle-related behavioural, clinical, and psychosocial outcomes in these two populations. Secondary aims include reviewing methodologies of CGM studies and the integration of diabetes-self-management-education (DSME) within them. Primary and grey literature, published in English, identified from online databases and organisational websites will be screened based on the predetermined inclusion/exclusion criteria. Data extraction tables will capture changes in lifestyle-related behaviours (e.g., dietary habits, physical activity levels), clinical/metabolic biomarkers, psychosocial outcomes and CGM and DSME implementation methodologies. The expected outcome is that CGM use will elicit lifestyle-related behavioural improvements, resulting in positive clinical and psychosocial outcomes in prediabetes and T2D-nIT patients. Insights regarding effective adoption strategies of CGM and DSME within the treatment plans of the aforementioned population groups are also expected. Given the global diabetic pandemic – with one death every five seconds, and 5% of New Zealanders being diabetic (costing $ 2.1 billion) and 20% prediabetic - it is vital to mitigate the progression of prediabetes to T2D and reduce T2D severity. CGM is a promising interventional tool that can significantly ease the health and financial burdens on individuals, families (whānau), the healthcare sector, and the country. In this presentation, I shall demonstrate the process of conducting the scoping review to realise the aforementioned aims and also the preliminary results of the scoping review.

References

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