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Continuous glucose monitoring (CGM) has been used as a supplementary tool in diabetes care for around two decades and the latest versions of CGM (i.e., wearable devices with real-time data capture, superior accuracy, and summary of daily glucose variations) demonstrate great potential as a primary lifestyle-related behaviour changing agent (Didyuk et al., 2021). This is critical for individuals with prediabetes (PD), and type 2 diabetes-on-non-insulin-therapies (T2D-nIT). Worldwide research in this area, including the limited studies conducted in New Zealand (NZ), have not been adequate to influence policy changes and allocate public funding for the use of CGM in PD/T2D-nIT healthcare (Aleppo et al., 2023). In this presentation I will demonstrate how a randomised controlled clinical trial (RCT) will be deployed to assess the effectiveness of CGM-driven behaviour change in comparison to general diabetes education (DSME) in a NZ context. Participants of this RCT will be adults with PD/T2D-nIT, based in Auckland. The RCT will adopt a mixed-methods methodology (consisting of CGM apps, dietary image analysis, laboratory assessments, questionnaires and interviews) to investigate the lifestyle-related behavioural (dietary and physical activity-related), clinical and psychosocial benefits of the participants. It is expected that the RCT will provide adequate evidence to demonstrate that the benefits of CGM use (unaccompanied by diabetes education) are comparable to the benefits of general diabetes education (usually inaccessible due to logistical/time constraints). Uncontrolled PD/T2D leads to various other non-communicable diseases (associated with the heart, the kidneys, the brain and the wider nervous system). Since there are around 1 million individuals with PD and over 300,000 with T2D in NZ (with higher percentages seen in the Pasifika, South Asian and Māori ethnic groups) (PricewaterhouseCoopers New Zealand, 2021), any attempt to control diabetes is likely to minimise its health and socioeconomic burden on the individual, whānau, and the nation.

Keywords

continuous glucose monitoring, diabetes education, wearable devices, digital health, behaviour change, prediabetes, type 2 diabetes, lifestyle

References

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