


Abstract

Glycaemic Matrix and Segmentation: A New Metabolic Visualisation and Analysis Tool [†]

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Abstract: Background and objectives: New technologies provide the opportunity to understand the complex systemic background of multidimensional diseases and allow for a personalised approach. Continuous glucose monitoring (CGM) sensors and their broad use have been key in the discovery of the metabolic heterogeneity surrounding many disorders such as diabetes type II, and have placed the scientific community a step closer to determining which factors contribute to their complications and evolution. However, gathering data extending beyond glucose levels linked to lifestyle factors, such as nutrition, physical activity, sleep quality, and stress, poses a significant challenge in terms of representation, considering the substantial amount of data involved. To comprehend the relationship between these variables in a practical manner that empowers individuals to make choices enhancing their quality of life, there is a need for new graphics. These graphics would enable the observation of the overall framework in a contextualised manner and assist in establishing clear visual goals. Methods: This article introduces glycaemic matrix and metabolic segmentation, a new method for representing and evaluating functional profiles by combining glucose and lifestyle data. Results: In this early-phase trial, the potential of this approach to represent the complete glycaemic spectrum within its context and adapt to a diverse range of objectives is demonstrated. Discussion: We propose a promising tool to finally be able to cluster metabolic types through artificial intelligence (AI) and adapt clinical interventions to metabolic heterogeneity. This research is private research conducted under Glucovibes company R&D initiatives.



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