A highly tolerated soluble fiber as an effective dietary strategy for supporting blood glucose control.

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Effective postprandial glycemic control is crucial for diabetes management. A soluble fiber, classified as a resistant dextrin, has gained attention for its beneficial effect on gut health and high digestive tolerance. This study aims to investigate the efficacy of soluble fiber supplementation in improving postprandial glycemic response among healthy adults.

This randomized, controlled, parallel clinical trial conducted in Singapore (ClinicalTrials.gov: NCT06554002) involved 78 participants, divided into overweight (OG) and genetic risk of type 2 diabetes (GRG) subgroups. Participants were divided into two arms and consumed twice daily either 20 g of NUTRIOSE® FB06 soluble fiber (treatment, n=40) or 3 g of glucose (control, n=38) in a flavored beverage over an 8-week period. Blood glucose responses were evaluated during 3 days at the beginning and at the end of the study using a Continuous Glucose Monitoring System (CGMS).

Daily supplementation with soluble fiber significantly enhanced 24-hour glucose homeostasis in free-living conditions. After just one day, supplementation with soluble fiber tended to improve glucose management in both subgroups, with a significant effect in the OG group during dinner. Over 8 weeks, soluble fiber supplementation, compared to the control, led to a greater improvement in glycemic response after dinner compared to breakfast and lunch.

Even with variability from free-living conditions, the study highlights that soluble fiber can help manage postprandial glycemia in the short term and after 8 weeks of supplementation. CGMS data revealed significant improvements in glycemic control, particularly in the evening, offering potential for diabetes risk management.

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Key words: Fiber, Blood glucose management, Glucose homeostasis, Continuous glucose monitoring, Resistant Dextrin

Conflict of interest:

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