Impact of a High-Fiber Dietary Intervention on Added Sugars Intake and its Association with Gestational Weight Gain: Findings from a Pilot Study

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Introduction. Excessive gestational weight gain (GWG) is associated with poor maternal and infant health outcomes. In non-pregnant populations, dietary interventions targeting a single nutrient often lead to collateral dietary improvements not part of intervention messaging. Added sugars (AS) intake in these populations is related to weight gain, whereas high fiber (HFib) intake is related to weight loss. This study aimed to determine whether HFib intervention influenced AS intake and explore the relationship between AS intake and GWG.

Methods. Secondary analysis of the SPROUT pilot study was completed. Participants were randomized into an HFib dietary intervention (n = 21) or usual care (UC; n = 22). For 18 weeks, women in the HFib group were provided HFib snacks (10-12 g/day) and educated to increase daily fiber intake to ≥30 g/day. RMANCOVA and linear regression were completed.

Results. There was a non-significant group by time interaction for AS intake (p = 0.156). From baseline to end of pregnancy, the UC group increased AS intake from 9.7% to 11.7% total calories/day, whereas AS intake for HFib remained stable (7.6% to 7.7%). Higher AS intake was positively associated with greater GWG (β = 0.183; p = 0.185), however, this relationship did not reach statistical significance.

Conclusions. The UC group increased AS intake, while AS intake in the HFib group remained stable. A potential relationship between AS intake and GWG was observed, though not significant. These pilot findings suggest HFib intervention may have benefits outside targeted intervention messaging that may reduce AS intake and GWG.

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