The effect of a low glycemic index diet during pregnancy on obstetric outcomes

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Abstract
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The effect of a low glycemic index diet during pregnancy on obstetric outcomes

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Background
Pregnancy is a condition where the GI concept may be of particular relevance because maternal glucose is the main energy substrate for intrauterine growth (1-2).

Objectives
The aim was to compare the effects of a low GI and conventional dietary strategy on pregnancy outcomes in healthy women. Compliance and acceptability were also investigated.

Design
Volunteers were assigned alternately to receive dietary counselling that encouraged either low GI carbohydrate foods (LGI) or high fibre, moderate-to-high GI foods (HGI) and studied five times between <16 weeks gestation and delivery. Of the 70 women who met the inclusion criteria, 62 completed the study (32 in LGI and 30 in HGI). Primary outcomes were measures of foetal size.

Outcomes
Mean diet GI fell significantly in the LGI group but not the HGI group. Compared with the LGI group, women in the HGI group gave birth to infants who were heavier (3408 ± 78 vs 3644 ± 90 g respectively, P = 0.051) with higher birth centiles (48 ± 5 vs 69 ± 5, P = 0.005), higher ponderal index (2.62 ± 0.04 vs 2.74 ±0.04, P = 0.03) and higher prevalence of large-for-gestational age (3% vs 33%, P = 0.01). There was no effect of diet composition on maternal weight gain, method of delivery or indirect measures of insulin sensitivity. Compared with baseline, only the LGI group reduced intake of saturated fat. Women in the LGI group found the diet easier to follow.

Conclusion
Since birth weight and ponderal index may predict chronic disease in later life, a low GI diet may favourably influence long-term outcomes.