

ORIGINAL RESEARCH COMMUNICATION

# Reproducibility and validity of dietary glycemic index, dietary glycemic load, and total carbohydrate intake in 141 Swedish men<sup>1, 2, 3</sup>

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**Background:** Although the associations of dietary glycemic index (GI) and dietary glycemic load (GL) with many chronic diseases have been examined in epidemiologic studies, information regarding the reproducibility and validity of these measures assessed with the use of food-frequency questionnaires (FFQs) is lacking.

**Objective:** We examined the reproducibility and validity of dietary GI and dietary GL and of carbohydrate intake as assessed by using an FFQ.

**Design:** Swedish men ( $n = 141$ ) aged 40–74 y completed 2 FFQs 1 y apart and two 1-wk weighed diet records 6 mo apart. Dietary GI, dietary GL, and carbohydrate intake (starches and sugars) were calculated from both FFQs and diet records. We used intraclass correlations between the 2 FFQs to measure reproducibility and Pearson correlations between the diet records and the FFQs to assess the relative validity.

**Results:** Reproducibility of the FFQs was 0.66 (95% CI: 0.56, 0.75) for dietary GI, 0.61 (95% CI: 0.50, 0.71) for dietary GL, and 0.61 (95% CI: 0.50, 0.71) for carbohydrate. The correlations between the FFQs and diet records were 0.62 (95% CI: 0.45, 0.74) for dietary GI, 0.77 (95% CI: 0.56, 0.88) for dietary GL, and 0.76 (95% CI: 0.55, 0.88) for carbohydrate after adjustment for within-person variation in the FFQs and diet records.

**Conclusion:** In this sample of men, an FFQ measured dietary GI, dietary GL, and carbohydrate with reproducibility and validity similar to other commonly studied nutritional factors.

**Key Words:** Dietary glycemic index • dietary glycemic load • carbohydrate • food-frequency questionnaire • diet record

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