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Dietary fiber, glycemic load, and risk of non-insulin-dependent diabetes mellitus in women.

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OBJECTIVE: To examine prospectively the relationship between glycemic diets, low fiber intake, and risk of non-insulin-dependent diabetes mellitus. **DESIGN:** Cohort study. **SETTING:** In 1986, a total of 65173 US women 40 to 65 years of age and free from diagnosed cardiovascular disease, cancer, and diabetes completed a detailed dietary questionnaire from which we calculated usual intake of total and specific sources of dietary fiber, dietary glycemic index, and glycemic load. **MAIN OUTCOME MEASURE:** Non-insulin-dependent diabetes mellitus. **RESULTS:** During 6 years of follow-up, 915 incident cases of diabetes were documented. The dietary glycemic index was positively associated with risk of diabetes after adjustment for age, body mass index, smoking, physical activity, family history of diabetes, alcohol and cereal fiber intake, and total energy intake. Comparing the highest with the lowest quintile, the relative risk (RR) of diabetes was 1.37 (95% confidence interval [CI], 1.09-1.71, P trend=.005). The glycemic load (an indicator of a global dietary insulin demand) was also positively associated with diabetes (RR= 1.47; 95% CI, 1.16-1.86, P trend=.003). Cereal fiber intake was inversely associated with risk of diabetes when comparing the extreme quintiles (RR=0.72, 95% CI, 0.58-0.90, P trend=.001). The combination of a high glycemic load and a low cereal fiber intake further increased the risk of diabetes (RR=2.50, 95% CI, 1.14-5.51) when compared with a low glycemic load and high cereal fiber intake. **CONCLUSIONS:** Our results support the hypothesis that diets with a high glycemic load and a low cereal fiber content increase risk of diabetes in women. Further, they suggest that grains should be consumed in a minimally refined form to reduce the incidence of diabetes.

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