Dear Sir:

The study by Mekary et al (1) in a recent issue of the Journal is of considerable interest: it links alcohol with a diminished prospective association between glycemic load from the diet and incident type 2 diabetes in women, progressively so with increasing alcohol consumption to the high end of moderate intakes. Several questions arise that need consideration before the authors’ conclusion can be fully justified.

1) Several other studies have reported a low or absent association between glycemic load and type 2 diabetes in prospective cohort studies (2–5). A characteristic of these studies is that their dietary instruments appear to be poorly validated, at least for carbohydrate intake with which glycemic load correlates. This begs the question: Did the dietary instruments used in Mekary et al’s study (1) retain validity (at least in terms of correlation for carbohydrate intake) at the different tertiles of alcohol intake?

2) Information on validity of the dietary instruments the authors used is incomplete. Three different instruments were used, which were associated with dates of 1980, 1984, and 1986, after which the instrument appears not to have been developed further or revalidated. The 1986 instrument had a deattenuated energy-adjusted correlation for carbohydrate intake of 0.64 for the instrument compared with more robust measurements. Because the instrument was developed in earlier years, one might presume that the correlations for the 2 earlier instruments, and over all 3 instruments together, would be lower than 0.64. So, what were the correlations for the earliest 2 instruments and on average for these instruments together in this study?

3) The period of diet observation in this study for diabetes ascertainment was 1980–2002, which allowed ≥16 y for foods consumed to differ from those available and those that were chosen by participants engaged during instrument validation during 1986. It is generally accepted that even perfect correlations can decay with time; in the present context, food choices in recent times will differ from those made during instrument validation. By how much then might the instrumental correlations have deteriorated over the time course of this study? Such would cause a progressive underestimation of RRs with increasing duration of follow-up.

4) A striking observation is the difference in RR linking type 2 diabetes and glycemic load reported at the 26-y follow-up in this study (RR: ≤1.3) (1) compared with that reported earlier at 20 y (RR: ≤2.5) (6), each in fully adjusted models; this is a 5-fold elevation in the size of association (ie, 1.5/0.3), although this was not discussed. Given the overlap of authorship, epidemiologic center, study in nurses, and journal of publication (1, 6), the 5-fold difference is very large and difficult to imagine that it could arise due simply to an additional 6 y of follow-up. It seems likely that the difference arises from differences in the calculations or in adjustments for potential confounders. What could be the explanation? And was such discrepancy distributed equally across the tertiles of alcohol intake?

5) Another possible discrepancy is the reported glycemic loads for the sampled populations. At 20-y follow-up it is reported that the load ranged ~60 g across deciles (7), whereas for just 6 additional years of follow-up the load is reported to range ~100 g across quintiles (1); this would be an approximate 2-fold difference after the difference in number of quantiles is accounted for and seems to be too large to be comparable. Some explanation would be welcome.

6) The most recent study with 26 y of follow-up (1) omitted to report the age-standardized energy, protein, and total fat intakes. At 20 y of follow-up, energy intakes are reported to be ~1600 kcal/d (6), but at the 26-y follow-up it might be estimated to be ~2000 kcal/d. Because such a rise in energy intake is not expected, it begs further questions. What were the energy intakes? And what was the age-standardized energy intake to which all nutrient values were adjusted?

GL hold shares in Independent Nutrition Logic Ltd, which is an independent consultancy that takes commissions from many organizations, a full list of which may be found at www.inlogic.co.uk.

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REFERENCES
