Nut-8.6. Data sources and measurements: report on the validity of the dietary or nutritional assessment methods and any internal or external validation used in the study, if applicable.

Example 1. “We compared FFQ-assessed acrylamide intake with a biomarker of acrylamide intake, hemoglobin adducts of acrylamide and its genotoxic metabolite glycidamide, in a sample of 296 nonsmoking women in the Nurses’ Health Study (NHS) II cohort. The correlation was 0.34 (P < 0.0001), adjusted for age, energy intake, BMI, and alcohol intake, and corrected for random within-person variation in the adduct measurement”.

Explanation. The published report from an observational study is improved by including information on measures taken when evaluating the validity of the dietary assessment tool. This will inform the readers whether the tool actually measures the intended aspect of the diet. Relevant information includes sufficient details about the specific dietary aspect validated, the reference method used, the measures of validity, the population studied, and the sample size. If the reference method is another dietary assessment method (i.e., relative validation), details on, for example, number of days, weighed or estimated records, as well as the season and time frame of data collection are useful.

Because no single measure covers all aspects of validity, it is a clear advantage to report >1 approach when describing the validity of a dietary assessment tool. Valuable basic information includes whether there is an overall reporting bias (i.e., under- or overestimation of dietary intake), whether there is a dose-response relation (i.e., from partial or single correlation or linear regression analyses) between the estimated intake and the intake measured with the reference method, and whether the validity of a method differs between subgroups.

The understanding of measurement errors in dietary assessment is increasing, and techniques have been developed to take measurement error into account when assessing diet-disease associations. Understanding these techniques has resulted in additional emphasis on detailed reporting on the procedures assessing the validity of dietary assessment methods.