

ABSTRACT FORM
INSTITUTE OF NUTRITION
MAHIDOL UNIVERSITY

FOOD GROUP VALIDATION OF A DIETARY QUESTIONNAIRE.
Gina S. Siapco, MPH and Joan Sabaté, DrPH, MD, Department of
Nutrition, School of Public Health, Loma Linda University, California,
USA.

Dietary questionnaire validation studies are commonly nutrient-based while only a few have been food-based. We validated 13 food and food groups on a 170-item semi-quantitative food frequency questionnaire developed for the Californian population in the context of a dietary intervention study.

We conducted a randomized crossover field trial among forty-three free-living adults who ate their customary diet for 6 months and an intervention diet which included walnuts for another 6 months. During each diet period, we collected seven 24-hour telephone recalls on each participant and administered the questionnaire at the end of each diet period.

Results showed a high degree of correspondence between the multiple 24-hour diet telephone recalls and the questionnaire on the foods under study, *walnuts* ($r=0.65$, $p<0.0005$) and *all nuts & seeds* ($r=0.58$, $p<0.0005$), and a moderate correspondence for *milk/cream/cheese* ($r=0.35$, $p=0.001$), *eggs/related products* ($r=0.34$, $p=0.001$), *fats & oils* ($r=0.322$, $p<0.003$), and *nuts other than walnuts & seeds* ($r=0.29$, $p=0.008$). We found poor correspondence on *fruits* ($r=0.20$, $p>0.05$), *vegetables* ($r=0.19$, $p>0.05$), *desserts* ($r=-0.06$, $p>0.05$), *candy/sugar/sweets* ($r=0.03$, $p>0.05$), and *beverages* ($r=0.21$, $p>0.05$). Questionnaire responses on mean intake of *fruits* and *vegetables* are significantly higher than assessed by the diet recalls (mean differences: *fruits* = +1.11 servings, *vegetables* = +0.57 serving). Contrarily, mean intake of *desserts*, *candy/sugar/sweets*, and *beverages* are significantly under-reported on the questionnaire (mean differences are -0.16, -1.53, and -1.20 servings, respectively).

The lack of correspondence between multiple 24-hour diet recalls and questionnaire for some of the food groups may be due to recall bias where participants tend to report a desirable intake rather than their actual intake.