Nut-12.2. Statistical methods: describe and justify the method for energy adjustments, intake modeling, and use of weighting factors, if applicable.

Example 1. “After examining the distribution of the data, all nutrient intake and biomarker variables were logtransformed to improve normality. We used the residual method to adjust dietary FAs and carotenoids for total energy by regressing nutrient intakes on 1) self-reported total energy intake derived from FFQs and 2) body weight and physical activity”.

Example 2. “The macronutrient intake is reported as absolute intake (grams per day) and as a percentage of energy, except for fiber, which is presented as grams per day and grams per mega-Joule. Micronutrient intake is presented as nutrient density (i.e., the amount of reported intake per 4.2 MJ); Nordic nutrition recommendations were used as a reference. For micronutrients, the recommendations were converted to nutrient density by dividing the recommended nutrient intake with the recommended energy intake multiplied by 4.2 MJ”

Explanation.

Individuals with high energy intakes might have a higher consumption of many food components.

Therefore, failure to adjust nutrient intakes for energy intake could lead to misleading conclusions with regard to the link between dietary intakes and disease. In addition, energy adjustment will potentially remove some of the negative influence of dietary measurement errors .The method used for energy adjustments (i.e., residual or nutrient density) should be described. It is also recommended to describe whether the energy adjustments include or exclude energy from any particular food or nutrient. For example, in studies in which alcohol is a strong risk factor for the disease (e.g., in studies on breast cancer), and there is a need to examine alcohol use separately, nonalcohol energy may be used instead of total energy when computing nutrient densities or nutrient residuals to examine dietary exposures. It is helpful to describe the statistical techniques used to remove the within-person error when using short-term instruments, such as 24-h dietary recalls, to estimate the proportion of a population below or above a recommendation or cutoff.