nut-20. Report the Nutritional Relevance of the Findings, Given the Complexity of Diet or Nutrition as an Exposure

Example 1. “A dilemma in the present study is the difference in group size. In order to avoid misinterpretations of the results and in order to deepen our understanding when analyzing data, estimations of effect sizes were calculated. Having a large sample increases the risk of overvaluing observed significant differences where the importance of the differences could be quite trivial. This occurred, for example, when we compared the differences of reported intake between the 2 nonceliac referent groups (data not shown) and found many significant differences; however, the estimated effect size revealed that the relevance of these differences was mostly small. On the other hand, a calculated large effect size on nonsignificant differences in a small sample, such as the changes in the previously diagnosed celiac disease group between baseline and follow-up, suggests a need for further research with a larger sample size”.

Explanation.

The nutritional relevance of the findings depends on a number of factors. The quality of the dietary data will determine the ability to detect significant associations. Small dietary differences without any biological significance could in large cohort studies result in significant associations with disease outcomes. Reporting an effect size of intake differences may facilitate the understanding of the practical and theoretical utility of study results. Translating an increased risk into a reduction in survival in number of months may also make it easier to judge the relevance of findings. The inherent complexities of diet as an environmental exposure pose additional challenges to the interpretation of study findings, which requires careful consideration and nuanced and balanced conclusions. Nutrients and other bioactive substances are generally not consumed in isolation. Food contains various bioactive substances, and each meal typically consists of a combination of several foods. It might be difficult to distinguish the “true” effect of a single nutrient, because nutrients interact with each other, with other compounds, and with the surrounding food matrix in complex ways (142). When intercorrelated nutrients (e.g., different FAs) are examined together, there is a risk of attenuated associations; however, on the other hand, if not analyzed together, the separate effects of intercorrelated nutrients may be impossible to detect. The dietary concentration of a single nutrient may also be too low to detect any health effect. Moreover, dietary habits

cluster with other health behaviors. Lifestyle factors other than diet and environmental factors, as well as the physiologic and disease status of study participants, will also influence the impact of dietary exposures. Indicate whether conclusions were based on analyses of dietary intakes alone The variation in food habits across populations, and studies. For example, meat and meat products are major sources of saturated fat in the United States, whereas dairy products dominate in the Nordic countries, resulting in diverging dietary covariates and potential confounders (i.e., dietary components related to fat intake will vary). Similarly, dietary carbohydrates are largely contributed by fruit and vegetables in Southern European countries, whereas sugary foods, cereals, and potatoes are major contributors in Northern Europe . Thus, the food habits in the population under study should be considered when discussing the generalizability of results, and the consistency of diet-disease associations needs to be examined in different populations. across subgroups within populations, further complicates the interpretation and contributes to inconsistencies between or whether intakes through diet were combined with dietary supplements (see Nut-16).

The variation in food habits across populations, and across subgroups within populations, further complicates the interpretation and contributes to inconsistencies between studies. For example, meat and meat products are major sources of saturated fat in the United States, whereas dairy products dominate in the Nordic countries, resulting in diverging dietary covariates and potential confounders (i.e., dietary components related to fat intake will vary). Similarly, dietary carbohydrates are largely contributed by fruit and vegetables in Southern European countries, whereas sugary foods, cereals, and potatoes are major contributors in Northern Europe. Thus, the food habits in the population under study should be considered when discussing the generalizability of results, and the consistency of diet-disease associations needs to be examined in different populations.