

Letters to the Editor

The effect of supplemental zinc on the zinc intake of British adults

Sir,

According to the published results of the National Diet and Nutrition Survey, in adult men aged 19–64 years the effect of supplemental Zn intake was most marked for those aged 35–49 years, with the intake of Zn from all sources 8% higher than that from food sources alone. This conclusion was based on an interpretation of the percentage difference between mean Zn intake from all sources (11.4 mg) and mean Zn intake from food sources (10.6 mg)⁽¹⁾.

We believe that this approach is misleading because:

1. The use of the mean, as an index of central tendency, is affected by the existence of outliers and the variance of data must be considered prior to analysis.

The mean daily Zn intake from all sources, for men aged 35–49 years, was inflated by the intake of three participants whose Zn intakes were 65.25 mg, 83.86 mg and 126.33 mg. These very high Zn intakes, from supplements, had the effect of raising the mean of the whole group.

2. A paired-samples *t* test should be used to take the variance of the data into account when the means of the intake data were evaluated.

A paired-samples *t* test on the data shows that, among men aged 35–49 years, mean daily Zn intake from food sources is not significantly different from mean daily Zn intake from all sources (10.6 mg *v.* 11.4 mg, $P > 0.05$).

Figure 1 compares the average daily Zn intake from food sources and all sources among the different age groups of adult men. This figure demonstrates that the difference between mean Zn intake from food sources and from all sources can be misleading, as it is affected by the variance of the groups.

Similarly, in women aged 19–24 years, although mean daily Zn intake from all sources including supplements was 4% higher than mean daily Zn intake from food sources, the difference is not statistically significant (6.8 mg *v.* 7.1 mg, $P > 0.05$). For those aged 25–34 years, 35–49 years and 50–64 years, the differences between mean daily Zn intake from food sources and mean daily Zn intake from all sources including supplements were significant ($P < 0.05$, $P < 0.001$ and $P < 0.001$, respectively).

In the men, the contribution of supplements to daily Zn intake was significant for those aged 25–34 years and those aged 50–64 years, with mean daily Zn intake from food

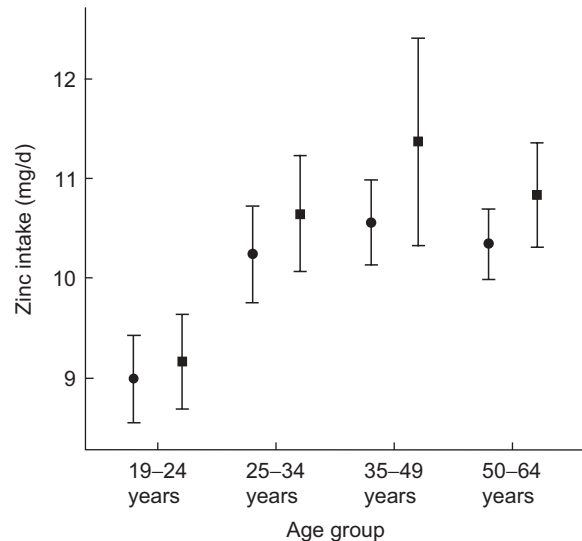


Fig. 1 Zinc intake (mg/d) from food sources (●) and from all sources (including supplements; ■) among different age groups of men in the National Diet and Nutrition Survey of adults of aged 19–64 years. Values are means with their 95% CI represented by vertical bars. There is an apparent difference between mean daily zinc intake from food sources and all sources among men aged 35–49 years but this difference is not statistically significant ($P > 0.05$).

sources significantly different from mean daily Zn intake from all sources ($P < 0.01$ and $P < 0.001$, respectively).

The use of a simple mean to evaluate differences in nutrient intakes can be misleading as it can be skewed due to the effect of outliers. For this reason the use of a paired *t* test (for within-group comparisons) or an independent *t* test (for between-group comparisons) should be the approach of choice.

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doi: 10.1017/S1368980008001730;
 first published online 29 January 2008

Reference

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