Abstract

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Antioxidant intake is associated with semen quality in healthy men.

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BACKGROUND: We seek to determine whether dietary and supplement intake of specific micronutrients (zinc and folate) and antioxidants (vitamins C, E and beta-carotene) is associated with semen quality.

METHODS: Ninety-seven healthy, non-smoking men provided semen and were interviewed. Average daily nutrient intake from food and supplements was derived from a self-administered food frequency questionnaire. Intake levels were summarized as low, moderate and high. Semen volume, sperm concentration, total sperm count, motility, progressive motility and total progressively motile sperm count (TPMS) were measured.

RESULTS: After controlling for covariates, a high intake of antioxidants was associated with better semen quality but, in almost all cases, there was no clear dose relationship in that moderate intake groups had the poorest semen quality. For example, positive associations were observed between vitamin C intake and sperm number as reflected in the higher mean count (P=0.04), concentration (P=0.05) and TPMS (P = 0.09); between vitamin E intake and progressive motility (P = 0.04) and TPMS (P = 0.05); and between beta-carotene intake and sperm concentration (P = 0.06) and progressive motility (P = 0.06). Folate and zinc intake were not associated with improved semen quality.

CONCLUSIONS: In a convenience sample of healthy non-smoking men from a non-clinical setting, higher antioxidant intake was associated with higher sperm numbers and motility.

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