

Abstract

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n-3 fatty acids and periodontitis in US adults.

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BACKGROUND: Periodontitis is a common, chronic inflammatory disease. Although n-3 fatty acids have anti-inflammatory properties, it is unclear whether n-3 fatty acids can treat or prevent periodontitis.

METHOD: We studied 9,182 adults aged 20 years and older who participated in the National Health and Nutrition Examination Survey between 1999 and 2004. Periodontitis was assessed by dental exam and was defined as >4 mm pocket depth and >3 mm attachment loss in any one tooth. Intake of n-3 fatty acids was assessed by 24-hour dietary recall. We used multivariable logistic regression to estimate the associations between periodontitis and intakes of docosahexaenoic acid (DHA), eicosapentaenoic acid (EPA), and linolenic acid (LNA).

RESULTS: The weighted prevalence and 95% confidence interval (CI) of periodontitis was 8.2% (95% CI 7.0 to 9.4). Compared with the lowest tertiles, the adjusted odds ratios for periodontitis associated with the highest tertiles of dietary n-3 intake were 0.78 (95% CI 0.61 to 1.00; P=0.009) for DHA, 0.85 (95% CI 0.67 to 1.08; P=0.10) for EPA, and 0.86 (95% CI 0.60 to 1.23; P=0.28) for LNA. The associations were little changed by multivariable adjustment or exclusion of individuals reporting use of dietary supplements containing DHA, EPA, or LNA.

CONCLUSIONS: In this nationally representative sample, higher dietary intakes of DHA and, to a lesser degree, EPA, were associated with lower prevalence of periodontitis. Interventional studies are needed to confirm the potential protective effects of n-3 fatty acids on periodontitis.

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