



DENTAL SPECIALTIES | PERIODONTICS

The role of fatty acids in periodontitis progression

Consuming certain dietary fatty acids may contribute to the progression and severity of periodontitis, according to a large-scale study published in the *Journal of the American Dental Association*.



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Consuming certain dietary fatty acids may contribute to the progression and severity of periodontitis, according to a large-scale study recently published in the *Journal of the American Dental Association*.

Furthermore, this may highlight the importance of maintaining a balanced dietary lipid profile for periodontal health, the authors wrote.

"The authors provided evidence of significant associations between certain fatty acids and periodontitis and its severity, highlighting their contributory role," wrote the authors, led by Bingqin Xie of the Fujian Medical University School of Public Health ([JADA](#), January 24, 2025).

Fatty acids are important for the human diet and support various physiological functions, and they are categorized as saturated fatty acids, monounsaturated fatty acids, and polyunsaturated fatty acids.

To investigate the link between fatty acids and periodontitis severity, an observational study that included 2009-2014 U.S. National Health and Nutrition Examination Survey data from 8,985 adults were conducted. Dietary fatty acid intake was assessed using two 24-hour dietary recalls, according to the study.

Weighted logistic regression was applied to examine the association between dietary fatty acids and periodontitis severity. Additionally, univariable and multivariable analyses were used to explore the causal relationship between plasma fatty acids and periodontitis, they wrote.

Certain fatty acids were positively associated with periodontitis, including the following:

- SFAs hexadecanoic C16:0 and octadecanoic C18:0
- MUFAs hexadecenoic C16:1 and docosenoic C22:1
- PUFAs eicosatetraenoic C20:4, eicosapentaenoic C20:5, and docosahexaenoic C22:6

In contrast, octadecadienoic (C18:2, a PUFA), total PUFAs, and omega-6 fatty acids showed a negative association with periodontitis, the authors wrote.

Similar patterns were observed between these fatty acids and the severity of periodontitis. However, analyses did not reveal any significant association between plasma fatty acids and periodontitis, they wrote.

Nevertheless, the study had limitations. The findings may have limited applicability to more diverse

populations, as participants were mainly from the U.S. and Europe, the authors added.

"Our study provides evidence that there may be a contributory part of fatty acids in the progress of periodontitis, underscoring the importance of a balanced dietary lipid profile and its potential implications for periodontal health," they concluded.

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