When antibiotic type was considered, the meta-analyses indicated that PPD reduction was significant only with doxycycline and the combination of amoxicillin + metronidazole. No antimicrobials were associated with CAL gain.

The adverse effects that were reported included gastrointestinal discomfort with the final placebo tablet in 1 study as well as diarrhea in 3 control subjects and 7 test subjects, headache in 1 control subject and 4 test subjects, metallic taste in 2 control subjects and 4 test subjects, and nausea/vomiting in 2 control subjects and 5 test subjects in another study. Another trial reported 1 woman had dizziness and difficulty swallowing, 1 trial reported no adverse effects, and 7 studies did not mention any adverse effects or complications.

DISCUSSION

PPD reduction was a modest additional benefit of SRP plus antimicrobial(s) in some studies. CAL gain was not affected by the use of antimicrobials. In the studies showing significant CAL gain and PPD reduction, the adjunctive systemic antimicrobials used were doxycycline 100 mg and the combination of metronidazole 400 mg + amoxicillin 500 mg.

Clinical Significance

A small but significant reduction in PPD and no effect on CAL were shown to be associated with the use of antibiotics along with SRP. The combination of amoxicillin and metronidazole had the best results in PPD reduction. Further study should include follow-up times of at least 12 months, well-defined inclusion criteria for diabetes status, and the exclusion of smokers or the randomization stratified by smoking status.

Souto MLS, Rovai ES, Ganhito JA, et al: *Int Dent J* 68:207-220, 2018

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Severe periodontitis, Hispanic/Latino heritage, and diet

BACKGROUND

Chronic periodontitis is an inflammatory disorder with various manifestations that is triggered by the presence of bacterial entities and causes destruction of the dentition-supporting tissues. Although the cause is likely to be multifactorial, our current understanding of the possible contributing factors remains incomplete. According to the most recent National Health and Nutrition Examination Survey (NHANES, 2009-2012), Hispanic individuals are more likely than non-Hispanic White individuals to have periodontitis, with moderate to severe periodontitis prevalence at 64% for Hispanics/Latinos over age 30 years. Most of the individuals represented in NHANES 2009-2012 were of Mexican heritage. The Hispanic Community Health Study/Study of Latinos (HCHS/SOL) found that significant heterogeneity exists in the prevalence of moderate to severe periodontitis in Hispanics/Latinos based on their heritage backgrounds. For example, Dominicans have a 25% prevalence, whereas Cubans have a 52% prevalence. A contributory role has been proposed for dietary factors in the manifestation and/or progression of periodontitis. Generally the literature has focused on specific macronutrients or micronutrients and has not considered the synergistic effects of dietary patterns. The alternative health eating index (AHEI) was created in 2002 and updated in 2010 (AHEI-2010) as a measure of the quality of a diet based on foods and nutrients found to be predictive of chronic disease risk. It has found usefulness in predicting risks for chronic obstructive pulmonary disease, cardiovascular disease, and type 2 diabetes, but has not yet been used to predict oral disease. The baseline data of the HCHS/SOL were used to evaluate the association of diet quality with severe periodontitis.

METHODS

A total of 13,920 Hispanic/Latinos age 18 to 74 years were included in this community-based prospective cohort study. All had full-mouth periodontal examinations, noting several clinical measures of periodontitis: levels of clinical attachment loss (CAL), periodontal probing depths (PD), and bleeding on probing (BOP). All were measured at 6 sites per tooth on all fully erupted permanent teeth except third molars. Dietary information was collected via 2 24-hour dietary recalls, with 1 taken at baseline and the second taken via telephone 5 days to 3 months after baseline. The data included 139 nutrients, nutrient ratios, food-group serving counts, and other food components. The 11 component foods and nutrients from at least 1 of the dietary recalls included 6 for which higher consumption is recommended

(vegetables, whole fruit, whole grains, nuts and legumes, long-chain fats, and polyunsaturated fatty acids), 4 for which lower consumption is recommended (sugar-sweetened beverages and fruit juice, red and processed meats, sodium, and trans-fats), and 1 for which moderate consumption is recommended (alcohol). Participants also completed standardized questionnaires noting heritage background, age, gender, annual household income, education, duration in the United States/nativity status, and current health insurance. Dental care utilization was also measured based on the time since the last dental visit, and energy intake was estimated using the National Cancer Institute (NCI) method. Adjustments were made in this method for age, sex, Hispanic/Latino background, clinical center, weekend versus weekday sequence, and the self-reported intake amount of foods.

RESULTS

Forty percent of the sample was of Mexican origin and 76% were foreign-born. The average age was 44 years. Four percent of the sample had severe periodontitis, which was defined as at least 30% sites with a CAL exceeding 5 mm. The highest prevalence of severe periodontitis was found among Cuban Americans. Those with severe periodontitis had more permanent teeth, deeper PDs, higher CAL, and more BOP sites than those without severe periodontitis. Demographics of the group with severe periodontitis included male gender, at least age 45 years, lower income and education, foreign-born, smoked, had not visited a dentist in the previous year, and had diabetes mellitus.

Participants with higher AHEI-2010 scores had lower odds of severe periodontitis and demonstrated a significant dose-response relationship for this factor. Adjustments for sociodemographic status did not alter these findings. Adjusting for smoking, diabetes, and energy intake attenuated the relationship with severe periodontitis somewhat. These inverse relationships were strongest in individuals of Central/South American, Cuban, or mixed/other backgrounds.

Individuals with the highest consumption of whole fruit and the lowest consumption of red/processed meats demonstrated significantly lower odds of having severe periodontitis than individuals with the lowest scores for these same foods. Subjects showed a significant trend toward having lower odds of having severe periodontitis with higher consumption of whole grains. Another significant trend linked higher odds of having severe periodontitis and higher consumption of polyunsaturated fats. Nuts, legumes, trans-fats, long-chain fats, sodium, and alcohol demonstrated no association with severe periodontitis.

DISCUSSION

Consuming a higher-quality diet was associated with lower odds of having severe periodontitis in Hispanic/Latino persons. Diet is a significant factor in the pathogenesis of periodontitis among this ethnic group of individuals.

Clinical Significance

The better the dietary quality, the lower were the odds of having severe periodontitis in this Hispanic/Latino population, regardless of their specific heritage. Causation remains to be proved in future studies.

Salazar CR, Laniado N, Mossavar-Rahmani, et al: Better-quality diet is associated with lower odds of severe periodontitis in US Hispanics/Latinos. *J Clin Periodontol* 45:780-790, 2018

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PRESCRIPTIONS

Antibiotic and opioid prescriptions by dental professionals

BACKGROUND

Inappropriate antibiotic and opioid prescriptions and uses are being targeted as significant public health concerns. Dentists prescribe 10.4% of all outpatient antibiotics in the United States, making them the top antibiotic prescribers after primary care physicians. Dentists prescribe 6.4% of all outpatient opioids and are more likely to prescribe opioids than primary care physicians. Areas with more dentists per capita are also associated with increased rates for opioid prescribing. Updated guidelines for prescribing antibiotics for prophylaxis and opioids for pain have been formulated. For example, antibiotic prophylaxis for most patients to prevent infective endocarditis and prosthetic joint infection is no longer recommended. For opioid prescriptions, the Centers for Disease Control and Prevention (CDC) has published guidelines recommending prescriptions for agents that last 3 days or fewer, with more than 7 days of therapy