The Ketogenic Diet: The Effects You’d Yeast Expect

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Recommendations:

- **Talk to patients about their diet!**
- **Discuss the keto diet as an option with patients with high caries risk.**
  - Reduction of carbs and sugars reduce incidence of caries.4,6,10
- **Keto diet can be recommended to patients with gingivitis to help reduce inflammation and bleeding of the gingiva.** 11
- **Erythritol should be recommended as a sugar substitute to patients on keto diet due to its ability to reduce acid and plaque levels in the oral cavity.**9
- **Keto breath can be masked by chewing gum to stimulate salivation.**2,5,10

Conclusion:

- **Low carb, high protein and fat diets, such as the keto diet, have had a recent resurgence in popularity.2,3**
- **Given the numerous beneficial effects on the oral cavity,1,3,4,6,9,11 it is important for dental hygienists know them and be able to educate patients using the keto diet.**
  - Reduce caries risk by decreasing amount of sugary nutrients bacteria feed upon.4
  - Reduce gingival inflammation and bleeding without a change in oral hygiene performance.11
  - Erythritol should be the sugar substitute of choice when on the Keto diet due to its association with reduction of acidity in the oral cavity and reduction of plaque.9

References:

11. Westbrook College of Health Professions, Dental Hygiene Department: Bryce Edwards SDH & Sam Waters SDH.

**Low Carb, High Fat Diet and Gingival Inflammation**11

Randomized controlled pilot study

- **Xylitol Group**
  - No significant decrease in plaque growth or levels of acid

- **Erythritol Group**
  - Decrease in plaque levels
  - Lower levels of acetic acid, lactic acid, and propionic acid than that of the other groups
  - Lower counts of salivary and plaque mutants streptococcus than the other groups

- **Sorbitol Group**
  - No significant decrease in plaque growth or levels of acid

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Low Carbohydrate Consumption and Caries Reduction4

- **Control Group**
  - Given basal diet without added carbohydrates
  - Increased consumption of sugar can increase caries activity
  - Risk is greater with stronger retention tendencies of food consumed
  - Risk is greater with sticky forms of sugar eaten between meals
  - When intake of sugar is reduced, the incidence of caries will fall

- **Sucrose Group**
  - Given basal diet with non sticky forms of sugars at mealtimes
  - Give placebo instead of sugar
  - No change in oral hygiene performance

- **Bread Group**
  - Given carbohydrate heavy meals
  - Note: tendency to retain on tooth surfaces

- **Sugar Group**
  - Given basal diet with addition of sticky sugars (inlows, chocolate, caramel) between meal times

**Keto Diet Sugar Substitutes Reducing Caries:**

- 3 year comparative study of xylitol, erythritol, and sorbitol candy consumption
- Daily per oral consumption from the candies was approximately 7.5 g
- Initial plaque samples collected from all participants

**WHAT TO EAT:**

- Fish, nuts, eggs, meat, poultry, seafood
- Protein
- Fat

- **Carbohydrates:**
  - 5 - 10% Carbs
  - 20 - 25% Protein
  - 50 - 75% Fats

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