An Investigation and Comparison of Human Plaque pH Changes After Consumption of Different Milk Formulae

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Introduction

Since the time of Pierre Fauchard, observant dentists have concluded that caries activity and patient's diets are inter-related. The effect of the fermentable carbohydrate component has received extensive scrutiny. It has been variously described as the 'arch criminal' and the greatest 'risk factor' in caries progression. The one certain conclusion at the present state of our knowledge is that several variables in food components, as well as those in oral biology, make it unlikely that any single type of food or food component can be named as the exclusive determinant of caries activity.

There is no single test of cariogenicity of food or beverages. Many in-vitro and in-vivo tests as well as animal experiments have shown that sugar containing beverages can cause dental caries. Experiments studying the relationship between carbohydrate intake and dental caries, have led to the conclusion that factors such as physical form, oral clearance, and the frequency of inbetween meal consumption are of more importance than the quantity of sugar ingested. This has probably recieved its greatest acceptance from the results of the Vipeholm studies. Studies have shown that liquids have low adhesiveness and in general show a lower oral retention than sticky foods[20].

The degradation of carbohydrates to acids demonstrated by the pH drop within plaque is commonly considered to be one of the important etiological factors of the caries process. If caries is the result of acid formation from food on the tooth surfaces, then it seems that the information of the amount and duration of acid formed from a unit amount of food stuff, by oral bacteria, should provide a direct indication of their cariogenicity. Thus the measurement