TIME REQUIRED FOR SALIVARY pH DROP IN CHILDREN BEING THE LOWEST AFTER EATING BISCUIT OR CHOCOLATE
(Field Eksperimental Research)

ABSTRACT

Background: Dental caries is a multifactorial disease requiring the presence of such as foods, microorganism, tooth, saliva, and time. Buffering and neutralization capacity of saliva effectively reduce the cariogenicity of foods in causing caries. There are many factors that influence the salivary pH, one of them is diet. The children prefer to consume snack such as biscuit, chocolate, candy, ice cream, etc tremendously. Such foods are metabolized so easily by plaque bacteria into acids which will reduce pH saliva below the critical pH and will increase the caries risk. After intake of sugar containing foodstuffs, the pH of dental saliva fall down rapidly then slowly recovered by buffering and neutralization capacity of saliva. As the pH fall down to lower than the critical pH value, dental enamel will begin to dissolve. It is crucial to reduce the recovery time for critical pH

Purpose: The purpose of this study is to compare the recovery time of salivary pH drops in children being the lowest after eating biscuit and chocolate.

Materials and Method: Fourteen participants of children are divided into two groups. Each group consisted of seven samples. The first group is given 5 grams of biscuit to consume in 1 minute. The second group is given 5 grams of chocolate to consume in 1 minute. 5 ml of saliva is collected into sterilized tube for every participants and directly assess using pH meter. pH saliva assessment is done in 4 consecutive visits. 5, 10, 15 and 20 minutes after consuming biscuit or chocolate.

Result: This study shows that the salivary pH after consuming biscuit fall down for 15 minutes and after consuming chocolate fall down for 10 minutes. Eating 5 grams biscuit can decrease the salivary pH from 7.0 to 6.486 in 5 minutes after eating biscuit; from 6.943 to 6.171 in 10 minutes after eating biscuit; from 6,957 to 6.0 in 15 minutes after eating biscuit, and then start recover from 6,957 to 6,243 in 20 minutes after eating biscuit. Eating 5 grams chocolate can decrease the salivary pH from 6.986 to 6.743 in 5 minutes after eating chocolate; from 6,943 to 6,471 in 10 minutes after eating chocolate; from 6,943 to 6,414 in 15 minutes after eating chocolate, and then start recovered from 6,971 to 6,614 in 20 minutes after eating chocolate.

Conclusion: There is a difference time for salivary pH drop being the lowest between both group. Eating 5 grams of biscuit can reach the lowest salivary pH 6.0 in 15 minutes and then start recover to pH 6,243 in 20 minutes. Eating 5 grams of chocolate can reach the lowest salivary pH 6,414 in 10 minutes flat to 15 minutes and then recover to pH 6,614 in 20 minutes. Time required for salivary pH drop after eating biscuit is longer than time required for salivary pH drop after eating chocolate.

Keywords: caries, pH saliva, time, biscuit, chocolate