



THE EFFECT of SALIVA pH and ABILITIES of BUFFER on DMF-T and def-t in THE MIXED TEETH CHILDREN (6-12 YEARS OLD)



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Background:

Saliva is a complex fluid produced by salivary glands. The function of saliva is maintaining oral environment. One of them is buffering capacity to inhibit demineralisation process of teeth, that's called caries disease.¹

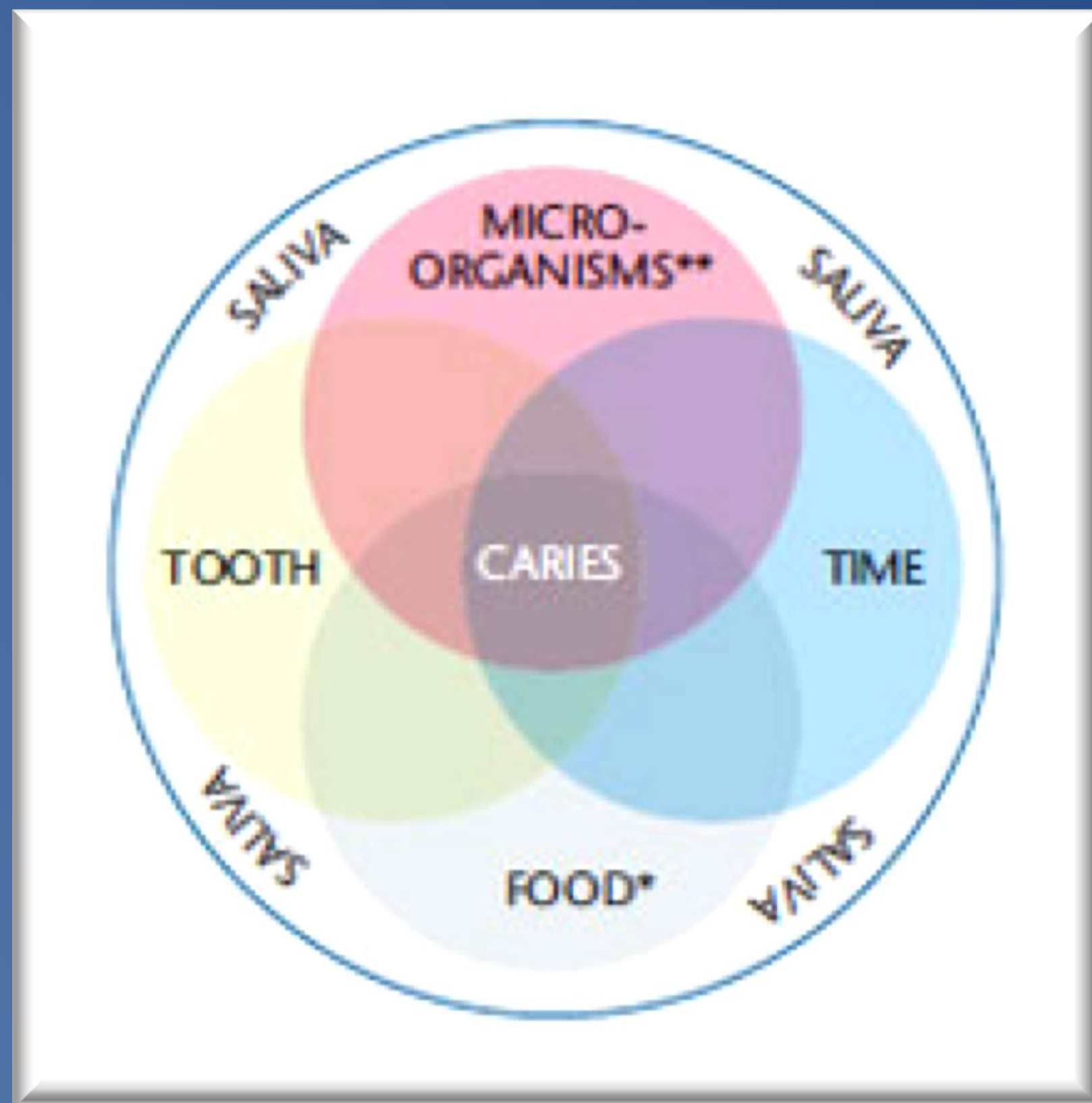


Fig.1. Caries process.

Caries is a disease of hard tissues caused by the interaction of bacteria on the surface of the teeth, plaque or biofilm and diet especially carbohydrate component which can be fermented to acid by plaque bacteria, particularly lactic acid. There is four factors that influence the occurrence of caries, (1) time, (2) host or teeth, (3) microorganisms, and (4) substrate.²

Saliva Function is protecting oral environment in various ways. Saliva cleans the bacteria and debris, maintaining the integrity of the tooth, antimicrobial, tissue healing, helping chew, and saliva as a buffering system is keeping the pH of saliva stable and inhibit caries with remineralization process by saliva.³

Aim :

This study was conducted to determine the influence of pH buffer capacity of saliva and caries status of children aged 6-12 years.

Method:

This study is a clinical observation. The subjects were ten children visited the dental hospital of UMY by random were observed caries index and checked the pH and buffer saliva use the Saliva-Check pH and Buffer (GC, Japan).

Dental caries index measurement was used by DMF-T (D=Decay, M=Missing, F=Filling, T=Teeth) for permanent teeth and def-t (d=decay, e=exfoliation, f=filling) for deciduous teeth.



Fig 2. GC Saliva Buffer-Check

Result :

The Result is significance α value def-t ($p=0.360$) and DMF-T ($p=0.385$) based on analysis of the correlations statistical test.

Discussion :

One of the functions of saliva is the ability of the buffer in which the buffer capability can withstand a drop in pH or acid increased the oral environment. It is also related to the viscosity or volume of saliva. In the pH value more than 5.5 buffer action will occur the process of ion supersaturation Ca^{2+} and PO_4^{3-} so remineralization process would happen. And when $\text{pH} < 5.5$ subsaturation occurs of ion Ca^{2+} and PO_4^{3-} , that causes email solubility, it's called demineralization or caries.³ But when one of the factors of caries are eliminated or do not occur simultaneously the caries process will not happen. Caries process can be inhibited by maintaining oral hygiene by brushing the teeth.³

Conclusion:

The conclusion is there is no correlation between saliva pH and caries status of 6-12 years old children in the mixed tooth period

Refference :

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