

SALIVARY PH AND BACTERIAL COUNT ASSESSMENT IN CHILDREN WITH HIGH CARIES RISK

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ABSTRACT

The tooth surface that most affected by dental caries based on the results of previous studies is the occlusal surface. Disease prevention and control of dental caries can be done by controlling the risk factors for dental caries. Objective: to determine the pH of saliva and the number of colonies of cariogenic bacteria *Streptococcus mutans* in saliva in children with occlusal caries risk. Method: this study was observational analytic laboratory. The study population was 84 students SDN Mekar Jaya and Cikawit Bandung regency. Sample size determined consecutive. Number of samples were 30 students with high DMF-S index. Inclusion criteria: male and female, aged 11-12 years, good general state of health, and the exclusion criteria: have a systemic disorder, under long-term antibiotic therapy. Results: the average value of DMF-S index at 84 students aged 11-12 years in SDN Mekar Jaya and Cikawit are 3.81, and 36.9% had high caries risk criteria. Salivary pH measurements showed acid criteria 43.3% and 10% cariogenic bacteria *Streptococcus mutans*. Conclusions: of research that each student has a 3 to 4 occlusal surface of teeth with caries and students with high caries category showed the pH of saliva acidic and cariogenic low bacteria *Streptococcus mutans*.

Key words: saliva pH, bacteria *streptococcus mutans*, DMF-S index, high caries risk.

INTRODUCTION

Economic and social environment has an influence on the oral health of children. Poor environmental and low socioeconomic status will result in poor oral hygiene, are predisposing factors that cause caries.

Caries is, "A disease in hard tissue of teeth that enamel, dentin, and cementum caused by microorganisms activity that exist in a carbohydrate and is characterized by demineralization of dental hard tissue followed by damage to the organic material. Based on the location caries divided into two types, pits and fissures, smooth surfaces of teeth". "smooth surface of teeth covers a surface area of buccal, lingual, and approximal, while the pit and fissure an occlusal surface of the tooth posterior.

Molaghi and Khestanti (2004) states, "The occlusal surface is the most frequently affected by caries, while the buccal surfaces of the maxillary teeth and lingual surfaces of the teeth of the lower jaw are rarely affected by caries".¹

A very important factor to maintain oral hygiene, is the realization and maintenance of oral hygiene personal behavior which is manifested in the form of knowledge, attitudes, and practice.² "One of the way to maintain oral health is brushing with the aim to release the plaque from the tooth surface".³

Based on Kesgimal in Indonesia, "child caries is a disease with the highest prevalence. This is due to children aged between 6-12 years old or children of school age are still not aware of and understand to maintain oral hygiene".⁴ The results is in line with the statement of Household Health Survey of 2001 that, "There are 76.2% of Indonesian children in the age group of 12 years old have cavities", while according to Lakhdiantani (2011), "In West Java disease cavities in children of school age reaches 85%".⁵ Before the caries spread to all parts of the tooth, caries will be about some tooth surface. Many exposed surface caries can be viewed by using DMF-S index. "DMF-S index is used to calculate the index of decayed, removed and patched on the permanent teeth of each tooth surface, so that we can see the most affected tooth caries".⁶

According to research conducted in Istanbul by Denizci (2010), "The upper jaw teeth more often affected by caries than on the lower jaw teeth which is about 62.4%. Judging from the surface, the prevalence of caries in the approximal surface of approximately 58.5%-77.5%, while in the occlusal surface of about 52.7%-66.3%. Caries occurs more often in the occlusal surfaces, whereas without notice molars, caries are more common in approximal surface".⁷