

sCD14 Protein in Children with Very High and Low pufa Index



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Introduction

Children dental and oral health is very important in supporting their growth and development, because it is included in the major health components. In addition, children dental and oral health has an important function in mastication function system. The active caries prevalence which has not been managed in the community aged 10 years-old and above is 52.3%. 100% children in Mekar Jaya Elementary Schools in Bandung Regency have a very high pufa index, so it is necessary to control the risk factor by means of sCD14 analysis. Protein sCD14 in saliva plays a very important role to protect both soft tissue and hard tissue in oral cavity from pathogenic bacterial infection. The objective of the research is to described the sCD14 level and pufa index, in order to know the roles of both sCD14 level and pufa index as instruments for early detection of dental caries risk.

Methods

The design of the research used was descriptive survey technique. The sample size was simple random sampling technique. The indicator measured was caries incident with individual pufa index and sCD14 level using ELISA method. pufa Index score is calculated by accumulating pufaaas every individual the same as the accumulated score for dmf - T / DMF - t. sCD14 was measured using saliva as a sample. Collecting saliva is done without the use of stimuli. The subject of research suggested to collected saliva for 5 minutes, then collected saliva taken for examination by using a suction method (method of exploitation). Saliva constantly sucked from the bottom of the measuring cup to the mouth by using saliva ejector or aspirator, then sCD14 assess after saliva centrifugation and performed calculations using the Elisa test .

Results

Individual pufa index in Mekarjaya Elementary School shows almost the same value for very low and very high pufa index, those are 31,1 % and 33,8 %.

Table beside shows CD14 value at very high pufa is in the range 3.44 to 33.58 ng/mL. The average of sCD14 concentration in very high pufa index is around 8,91 ng/mL.

Table beside shows CD14 value at very low pufa is in the range 7.17 to 31.74 ng/mL. The average of sCD14 concentration in very low pufa index is around 28,02 ng/mL.

Concentrations of CD14 on a very high pufa

Sample Category Pufa concentration of sCD14 (ng / mL)

No Respondent	Kriteria pufa	sCD14
1	Very High	5.48
2	Very High	5.70
3	Very High	13.35
4	Very High	5.24
5	Very High	9.78
6	Very High	4.63
7	Very High	9.62
8	Very High	5.03
9	Very High	5.08
10	Very High	12.72
11	Very High	3.44
12	Very High	7.14
13	Very High	5.03
14	Very High	7.68
15	Very High	33.58
An average of		8.91

Concentrations of CD14 on very low pufa

Sample Category Pufa concentration of sCD14 (ng / mL)

No Respondent	Kriteria pufa	sCD14
1	Very Low	11.71
2	Very Low	30.52
3	Very Low	30.91
4	Very Low	31.74
5	Very Low	30.82
6	Very Low	29.59
7	Very Low	30.21
8	Very Low	29.59
9	Very Low	29.90
10	Very Low	29.06
11	Very Low	28.37
12	Very Low	28.84
13	Very Low	28.68
14	Very Low	30.21
15	Very Low	27.70
An average of		28.02

Discussion

PUFA index results with very high criteria indicate the severity of the state of the dentition indicated by the involvement of the pulp, which is experiencing a state of oral mucosal ulcers, fistulas and abscesses due to caries.

PUFA index results with very low criteria showing no or only slight occurrence of the severity of the state of the dentition indicated by the involvement of the pulp, which is experiencing a state of oral mucosal ulcers, fistulas and abscesses due to caries.

SCD14 protein concentration in the index is very high PUFA showed lower levels of sCD14, inversely proportional to the SCD 14 in respondents with very low indices of PUFA. Results are consistent with research

Dario Giho expression of the salivary protein sCD14 was reduced in samples of patients younger patients with active caries, while in patients younger age are free of caries can be detected the presence of protein sCD14 clearly in saliva.

The above results indicate diagnostic test method can be used to mark the tendency of an individual regarding the existence of active caries is very high or very low in oral cavity.

Conclusion are there is negative relation between the average of sCD14 levels and pufa index in Mekar Jaya Schools in Bandung Regency. In very high pufa index, the average of sCD14 concentration is 8,91 ng/mL and 28,02 ng/mL in very low pufa index.

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