PROCEEDINGS
of
THE 17TH SCIENTIFIC MEETING
AND REFRESHER COURSE IN DENTISTRY

24 - 27 February 2016
Jakarta Convention Center (JCC)
KPPIKG 2016
The 17th Scientific Meeting and Refresher Course in Dentistry

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

Rania Wardani, Cucu Zubedah, Asty Suntiyast
Department of Public Health, Faculty of Dentistry, University of Radijana, Bandung, Indonesia
Correspondence email to: dgrrias@yahoo.com

ABSTRACT

The role of saliva has been recognized in the prevention and control of dental caries. This study aimed to determine the correlation between salivary pH and bacterial count in children with high caries risk. The study population was 40 students with high DMFS index. The results showed that children with high caries risk had a lower salivary pH and higher bacterial count, which is attributed to the presence of Streptococcus mutans. The presence of this bacterium can increase the risk of caries formation by producing lactic acid, which can cause a decrease in the salivary pH. The study concluded that children with high caries risk should be monitored for their oral health and receive appropriate treatment.

Key words: salivary pH, bacteria, Streptococcus mutans, DMFS 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, a predisposing factor that causes caries.

Caries is a disease in hard tissue of teeth that result in tooth decay or erosion. This disease is caused by acid attacks from bacterial decomposition of sugars in the mouth, resulting in demineralization of dental hard tissue followed by damage to the organic matter. Bacteria in the oral cavity divide into two types, acid and sugar, which cause the oral environment to become acidic. The acid environment can demineralize the tooth structure, leading to caries.

Mollaie and Kolomani (2006) stated, "The occlusal surface is the most frequently affected area, where the buccal surface of the maxillary teeth and lingual surface of the teeth of the lower jaw are most affected by caries." A very important factor to maintain oral hygiene is the reduction and maintenance of oral by gene personal behavior which is manifested in the form of knowledge, attitudes, and practice. "One of the way to maintain oral health is by brushing with the aim to release the plaque from the tooth surface."

Based on Kompis et al. (2016), "child caries is a disease with the highest prevalence. This disease is often found in children aged between 0-12 years old. In Indonesia, children aged 0-12 years old already experience caries, while in Malaysia, children aged 0-12 years old already experience caries before the age of 3 years old."

According to research conducted in Indonesia by Demerdjian (2010), "the upper jaw teeth are often affected by caries than the lower jaw teeth which is about 62.4%. Judging from the surface, the prevalence of caries in the approximal surface of approximal teeth is about 55.9%, while in the occlusal surface of approximal teeth is about 67.1%. Caries occur more often in the occlusal surface, whereas without occlusal malocclusion, caries are more common in approximal surface."
OBJECTIVE

Dental caries is a common problem among children. The aim of this study was to assess the prevalence of dental caries and its correlation with socio-economic factors among students of Kebbi State, Nigeria. The prevalence of dental caries was assessed using the DMFT index. The study was conducted among 100 children. The data was analyzed using statistical methods. The prevalence of dental caries was found to be high among the students. Socio-economic factors such as income, education, and tooth brushing habits were found to be significantly associated with the prevalence of dental caries. The study highlights the need for improved dental hygiene practices and early intervention to reduce the burden of dental caries among children.

METHODS

The study was conducted among 100 children aged 5 to 15 years in Kebbi State, Nigeria. The children were selected based on convenience sampling. The prevalence of dental caries was assessed using the DMFT index. The data was analyzed using statistical methods. The prevalence of dental caries was found to be high among the students. Socio-economic factors such as income, education, and tooth brushing habits were found to be significantly associated with the prevalence of dental caries. The study highlights the need for improved dental hygiene practices and early intervention to reduce the burden of dental caries among children.

Table 1: DMFT index on students aged 5-15 years

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>35</td>
<td>35.4</td>
</tr>
<tr>
<td>DMFT &lt; 5</td>
<td>35</td>
<td>35.4</td>
</tr>
<tr>
<td>DMFT 5-6</td>
<td>35</td>
<td>35.4</td>
</tr>
<tr>
<td>DMFT 6-9</td>
<td>15</td>
<td>15.1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2: Saliva pH distribution at students aged 5-15 years

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>35</td>
<td>35.4</td>
</tr>
<tr>
<td>Manual</td>
<td>35</td>
<td>35.4</td>
</tr>
<tr>
<td>Scour</td>
<td>30</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 2. Category counting mutans streptococci S. mutans Students Ages 11-12 Years

<table>
<thead>
<tr>
<th>Test saliva bacterial activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>27</td>
</tr>
<tr>
<td>Positive</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

The results of the color of the test of the DMFS index in students aged 11-12 years are as follows:

- Negative: 27 students
- Positive: 30 students
- Total: 100 students

The percentage of the DMFS index at 28.5 percent.

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- Negative: 27 students
- Positive: 30 students
- Total: 100 students

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ACKNOWLEDGMENT

The Director Rien and Community Services University of Padjadjaran.

REFERENCES