

Promotion and Education on the Prevention of Dental Caries with the Addition of Atraumatic Restorative Treatment Techniques and prevention with Fissure Sealant

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Abstract: Caries is an infectious disease that results from bacterial interactions. Dental caries occurs due to the demineralization process from bacterial interactions on the tooth surface. Pontianak City, based on the results of screening carried out in ten kindergartens and preschools supported by the Sungai Kakap Community Health Center, on average, school children at an early age had caries, and children were even found to have experienced damage to their first permanent molars. In the initial survey, researchers found problems with the teeth and mouth of students at SD Negeri 05 North Pontianak who still had minimal knowledge and understanding about how to maintain healthy teeth and mouth, and overcome dental and oral health diseases. And it was found in the initial data collection that there were 84 teeth with enamel caries that were indicated for filling with *art techniques* and 74 deep fissure teeth that required fissure sealant. This research aims to overcome this problem. The research results of 183 respondents who had healthy teeth were 14%. There are 40% who have signs of dental caries so fissure sealant treatment is carried out to prevent caries. And as many as 46% had dental caries so fillings were carried out using the Atraumatic Restorative Treatment technique. Dental and oral health service activities that have been implemented at SD Negeri 05 North Pontianak have succeeded in improving dental and oral health. By carrying out treatment according to the indications experienced by the respondent.

Keywords: Caries, Atraumatic Restorative Treatment, Fissure Sealant

A. Introduction

Caries is an infectious disease that results from bacterial interactions. Dental caries occurs due to the demineralization process from bacterial interactions on the tooth surface. Bacteria are acidic so that over a certain period of time, the acid will damage tooth enamel and cause cavities in the teeth. The etiological factors in the occurrence of

caries are plaque microorganisms, diet and time.

Data taken from one of the areas in Pontianak City Regency based on the results of screening carried out in ten kindergartens and preschools assisted by the Sungai Kakap Community Health Center, on average, early school children already experience caries, and even children were found who had experienced damage to their first permanent



molars at that age. only six years old. And when asked questions about when to brush their teeth, it was found that 80% of children answered that they brushed their teeth twice a day, namely in the morning and evening when bathing, while at night before going to bed many children did not brush their teeth, some even answered that they did not brush their teeth when they went to school. school. Although education about dental hygiene and dental disease is often carried out, the effect on how to brush your teeth properly is still not.

A person's awareness of the importance of dental health can be seen from the knowledge he has (Fankari, 2004) explaining that one of the causes of dental and oral health problems in society is behavioral factors or attitudes that ignore dental and oral health. When someone is at a higher level of knowledge, attention to dental health increases. This is supported by research conducted (Kawuryan, 2008) which examined the relationship between knowledge about dental and oral health and the incidence of caries in children at Kleco II Elementary School, grades V and VI in Laweyan, Surakarta.

Dental and oral health education and education is an effort to influence someone to behave well and motivate them to maintain healthy teeth and mouth, as well as increasing public awareness of the importance of dental and oral health and providing an understanding of ways to

maintain dental and oral health (Khan MHA, 2013) .

Children spend most of their time at school, so fostering a healthy environment and adopting health-promoting behaviors is appropriate at school.

The dental health education program is one of the programs that must be implemented by community health centers in an integrated manner with other health businesses and shown to individuals who visit the health center and community groups in the work area of the health center. Community groups are motivated to improve the way they care for their teeth through dental health education (Budiharto, 2008) .

In the initial survey, researchers found problems with the teeth and mouth of students at SD Negeri 05 North Pontianak who still had minimal knowledge and understanding about how to maintain healthy teeth and mouth, and overcome dental and oral health diseases. And it was found in the initial data collection that there were 84 teeth with enamel caries that were indicated for filling with *art techniques* and 74 deep fissure teeth that required fissure sealant.

This research aims to overcome the problems described previously.

B. Materials and methods

1. Health promotion

It is a process of empowering the community to be able to maintain and improve their health. The empowerment

process is carried out from, by, for the community (Ardini, 2016)

2. Education

Education is process Study from No know become know. According Dictionary Big Language Indonesia (KBBI) education is process change attitude And behavior somebody or group in an effort to mature themselves through teaching, training, processes and efforts educational way. Teaching efforts in providing education itself can channeled through health education.

3. Caries

Caries is an infectious disease that results from bacterial interactions. Dental caries occurs due to the demineralization process from bacterial interactions on the tooth surface. Bacteria are acidic so over a certain period of time, sour will damage e-mail tooth And cause tooth become hole. Fact retiology happen caries that is microorganisms plaque, diet And time. Caries on tooth eldest often attack tooth molars jaw lower, toothmolars jaw on, And tooth anterior jaw on. On period period toothMixed dental caries often attacks the permanent molars of the jaw lower compared with jaw teeth on (Hiranya & Eliza, 2011)

4. Atraumatic Restorative Treatment

It is a filling method or procedure called tooth conservation by removing carious tooth tissue using only a

handheld instrument. The *art* concept is to reduce trauma to the teeth. *Art* uses hand instruments rather than electric handpieces, thereby reducing pain and reducing the need for local anesthesia to minimize psychological trauma to patients (Agtini, 2010)

5. Fissure sealant

fissure sealant itself is the act of closing pits and fissures with a sealant material, usually a sealant material using composite resin or glass ionomer cement. Pits and fissures are reshaped and filled with sealant material so that the teeth become more resistant to dental caries attacks. This is often found in molars which have a very important role in chewing. The wide surface is used to smooth food particles that have been cut with the front teeth. Molars have a special role and shape which are their advantages, but there are obstacles that must be overcome wisely so that their function and existence can be well maintained. The position of molars in the oral cavity that is difficult to reach also makes it difficult to clean them with a toothbrush (Siahaan et al., 2023)

The following are details of the materials used in this research:

Names of Tools and Materials	Amount
Handsocon	5 Boxes

Face mask	5 Boxes
Cotton	5 Rolls
Toothbrush	43 PCs
Toothpaste	9 PCs
Handsoap	3 Bottles
Mouthwash Cup	45 PCs
Bayclin	7 Bottles
Sunlight	5 Bottles
Fuji IX	1 piece
Ionomer Glass	1 piece
Cocoa Butter	3 pieces
Aqua Glass	11 Box

This research was carried out at SDN 05 Jalan Parit Pangeran Siantan Hulu, North Pontianak District, targeting students in grades IV, V and VI. The methods used to achieve research objectives include a promotive approach by conducting education with the aim of increasing the knowledge and skills of students and teachers in maintaining dental hygiene, making posters and *flipcharts* as a medium for classroom education, a preventive approach by treating caries with *fissure sealant* and the Curative by filling dental caries with *art techniques*.

In this research, the author was assisted by a team to create a systematic work plan with educational material as well as service with do filling caries with *art techniques* and preventing it with *fissure sealant*, then treating dental caries with fissure sealant, filling caries with art

techniques and finally carrying out the final research evaluation.

C. Results and Discussion

Research activities were carried out at SD Negeri 05 North Pontianak with a total of 183 respondents. Implemented with simple Promotive, Preventive and Curative Activities

1. Promotional

Table 1. Promotional Activities

Class	Activities
IV and V	Promotion and education on preventing dental caries by filling with art techniques and preventing fissure sealants

2. Preventive

By performing fissure sealant closure to prevent caries in children in grades IV and V.

Table 2. Preventive Activities

Fissure Sealant Treatment		
Man	33	18%
Woman	41	22%
Amount	74	40%

3. Simple Curative

Table 3. Simple Curative Activities

Dental caries filling with ART		
Man	36	20%
Woman	48	26%
Amount	84	46%

From the data above, it can be concluded that 14% of the 183 respondents had healthy teeth. There are 40% who have signs of dental caries so fissure sealant treatment is carried out to prevent caries. And as many as 46% had dental caries so fillings were carried out using the Atraumatic Restorative Treatment technique.

D. Conclusion

Dental and oral health service activities that have been implemented at SD Negeri 05 North Pontianak have succeeded in improving dental and oral health. By carrying out treatment according to the indications experienced by the respondent.

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