

# The Influence of Family and Culture Supports on Teeth Brushing Behavior in Students of Elementary School

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## Abstract

Teeth is one part of the body that serves function for chewing food, talking and maintaining the shape of the face, therefore it is important to maintain the health of teeth as early as possible so that they can last longer in the oral cavity. The purpose of this study was to determine the influence of family support and cultural support on the behavior of teeth brushing in students at Bungbaruh 1 State Elementary School. This study applied case control design with population divided into 35 respondents in case group (brushing teeth with tooth powder made of brick) and 50 respondents in control group (brushing teeth with tooth paste). The samples taken into study were 56 people (divided into 28 in case group and 28 in control group) taken using simple random sampling technique. Statistical test was carried out using Chi-square test and logistic regression. The results indicated that there was significant influence of family support ( $p$  value = 0,016), cultural support ( $p$  value = 0,007), knowledge of teeth brushing ( $p$  value = 0,006) and attitude in teeth brushing ( $p$  = 0.002) on teeth brushing behavior. The result of logistic regression test revealed that the most influencing variable on tooth brushing behavior was students' attitude toward teeth brushing behavior with tooth powder made of brick (OR = 3,039) which means that better attitude lead to the possibility teeth brushing using tooth paste. It is advised to do dental maintenance from an early age with proper knowledge about behavior and practice of teeth brushing to children in Bungbaruh 1 State Elementary School. It is also advised that the family to not practice teeth brushing using tooth powder made of brick at home and to provide health education about proper behavior of teeth brushing in society.

**Keywords:** Culture support, Family support, Teeth brushing behavior.

## I. INTRODUCTION

Health development is carried out by giving priority to efforts on health improvement, prevention of disease by not neglecting medication and health recovery efforts in order to support optimal health, which includes health efforts in the field of dental health (Depkes RI, 1994).

Santrock (2002) argued that the behavior of children in Indonesia in maintaining oral health was still low. Dental care is considered less important, but the benefits are vital in supporting health and appearance. Such behavior arises because of a lack of knowledge among children concerning the importance of oral and dental care, hence the ignorance of oral hygiene. This is a common cause of dental and oral health problems in school-aged children (Fankari, 2004). In general, the condition of dental hygiene and improper brushing teeth practice among children is worse compared that on adults which causes dental caries. It is parents' role in providing guidance and training to children about the practice of maintaining dental health by teeth brushing properly and correctly. In general, the habit of children in teeth brushing is only intended to refreshing, not because of understanding of good benefit it has to dental health, hence low teeth brushing practice among children (Rahayu & Irfan, 2016).

RISKESDAS (Basic Health Research of Indonesia) in 2013 showed that 71.2% of Indonesians experienced dental caries. Only 29.6% had a regular brushing teeth practice after meals and before bedtime, using toothpaste, of which 64.5% were elementary school-age children included (Kemenkes RI, 2013). Some children did practice teeth brushing at night by 54% (Ningsih, 2013).

According to data from Dinkes Kabupaten Pamekasan (2015) (Health Office of Pamekasan District), from 83,765 elementary children in Pamekasan District, 44,915 children (53.6%) who suffered dental caries or tooth decay were due to improper practice of tooth brushing practice. Preliminary study conducted on April 27, 2017 at Bungbaruh 1 State Elementary School which included students aged 9-12 years revealed that around 80% of students practiced teeth brushing teeth once at the time of the bathing, 40% students used toothpaste, 40% used tooth powder made of bricks while the remaining 20% of students teeth brushing after meals, 60% of students had cavities, and 60% of the students teeth brushing twice a day during morning and afternoon baths. The results of interviews conducted on 10 parents stated that they still practicing teeth brushing using tooth powder made of bricks. This culture has been done long ago by their grandparents with aims of getting a brighter tooth color. Despite of that, such practice can lead to enamel damage (Budiharto, 2015).

Period 6-12 years is the age of primary school, where the age of 10-12 years is a mixed tooth period, So it takes good action for the maintenance of dental and oral health. In this period also children have shown a sensitivity to

learn in accordance with his curiosity, including tooth brushing. Therefore, this age is very appropriate to teach something new to the child (Hurlock, 2012).

Dental and oral health is closely related to behavior. Having good behavior of maintaining dental and oral hygiene is pivotal in determining the degree of health of the individual. Therefore there should be a change in behavior of maintaining dental and oral health. According to Blum's theory, the environment plays a significant role in one's behavior, in addition to some innate factors. The environment within society in which the individual lives, plays a role in the formation of behavior. Therefore, in order to change the behavior, there is a need of public participation. The closest environment is the family and more broadly the school. The role of parents is crucial in making such changes in children. The knowledge and education provided by parents and teachers is helpful in the formation of child behavior (Riyanti & Saptarini, 2009).

Teeth brushing is important in relation to the process of dental caries. Family support and culture also influence the students to practice teeth brushing either with tooth powder made of brick or toothpaste. Family support could be in form of obliging children in maintaining dental hygiene. Improper teeth brushing lead to some particular diseases because of Germs in teeth may cause infection in the gum tissue that in the end entering into the bloodstream. This conditions that can lead to inflammation in other body parts such as the heart muscle, kidneys, joints, prolonged headaches, eyes and other organs (Suwelo, 1992). This study showed the existence of dental problems in children especially at school ages, therefore the researchers put particular interest to conduct a study on the influence of family and cultural support to the behavior of teeth brushing on students at Bungbaruh 1 State Elementary School.

## II. METHODS

This study applied an analytical study with case control design. Simple Random technique was used as sampling technique with a total of 56 samples. Ratio of sample size between case and control was 1: 1, whereas the sample consisted of 28 respondents in case group (teeth brushing with tooth powder made of brick) and 28 respondents in control group (teeth brushing with toothpaste). Questionnaire was used to obtain data on respondent characteristics such as name, age and sex. Questionnaire related to knowledge and attitude was used to obtain data about the knowledge and behavior of tooth paste or tooth powder made of brick usage. The results of the questionnaires are classified as categorical data, so it refers to Nugroho (2014), they are presented descriptively in the form of frequency and percentage. To test the hypothesis used logistic regression test.

## III. RESULTS

### *Family support*

Family support	Tooth brushing behavior				Total	
	Powder	%	Toothpaste	%	f	(%)
1. Powder support	17	68	8	32	25	100
2. Toothpaste support	11	35	20	65	31	100
Total	28	50	28	50	56	100

p=0.016,  $\alpha= 0.05$

The analysis indicated that family support in the behavior of teeth brushing using tooth powder made of brick in case group was 68% much higher than control group, which used toothpaste for teeth brushing (32%), with value  $p = 0.016 < \alpha = 0.05$ , there was an influence of family support to the behavior of brushing teeth on students at Bungbaruh 1 State Elementary School. Families tend to support teeth brushing using tooth powder made of brick because children imitate the behavior of their parents more quick.

### *Cultural support*

Cultural support	Tooth brushing behavior				Total	
	Powder	%	Toothpaste	%	f	(%)
1. Powder support	18	69	8	31	26	100
2. Toothpaste support	10	33	20	67	30	100
Total	28	50	28	50	56	100

p=0.007,  $\alpha= 0.05$

The analysis indicated that culture support in the behavior of teeth brushing using tooth powder made of brick in case group was 69% much higher than control group, which used toothpaste for teeth brushing (33%), with value

$p = 0.007 < \alpha = 0.05$ , there was an influence of culture support to the behavior of brushing teeth on students at Bungbaruh I State Elementary School. Therefore the culture can be made for behavior of their human.

<b>Knowledge</b>						
Knowledge	Tooth brushing behavior				Total	
	Powder	%	Toothpaste	%	f	(%)
1. Less	11	69	5	31	26	100
2. Enough	17	53	15	47	32	100
3. Good	0	0	8	100	8	100
Total	28	50	28	50	56	100

$p=0.006 \alpha= 0.05$

The analysis indicated that respondents with sufficient knowledge tend to be almost the same, in case and control group, which was 53%. The result of analysis between knowledge and behavior of teeth brushing showed value of  $p = 0.006 < \alpha = 0.05$ ; there was an influence of knowledge to behavior of teeth brushing among the students at Bungbaruh I. Sufficient level of knowledge should make respondent to have behavior of teeth brushing, while many other factors do influence the behavior.

<b>Attitude</b>						
Attitude	Tooth brushing behavior				Total	
	Powder	%	Toothpaste	%	f	(%)
1. Less	12	86	2	14	14	100
2. Enough	9	53	8	47	17	100
3. Good	7	28	18	72	25	100
Total	28	50	28	50	56	100

$p=0.002 \alpha= 0.05$

It was found that 86% respondents had lack of attitude and tended to teeth brushing using tooth paste 14%. The result of analysis indicated that the relationship between knowledge and behavior of tooth brushing, with value  $p = 0.002 < \alpha = 0.05$  there was an influence between attitude toward teeth brushing behavior among students at Bungbaruh I. A lack of attitude determines the practice of teeth brushing teeth using tooth paste, meaning that respondents who had lack attitude tend to do teeth brushing using tooth paste. In order to conform an attitude to be an action requires supporting factors or a condition, among other facilities as well as family support.

#### **The Result of Logistic regression analysis**

Variables in the Equation							95,0% C.I.for EXP(B)	
	B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1 <sup>a</sup> Family	-20.554	4.019E4	0.000	1	1.000	0.000	0.000	.
Culture	21.667	4.019E4	0.000	1	1.000	2.570E9	0.000	.
Knowledge	1.167	0.607	3.694	1	0.055	3.211	0.977	10.553
Attitude	1.159	0.446	6.761	1	0.009	3.187	1.330	7.635
Constant	-6.406	1.876	11.663	1	0.001	0.002		
Step 2 <sup>a</sup> Culture	1.203	0.664	3.279	1	0.070	3.329	0.906	12.237
Knowledge	1.268	0.601	4.447	1	0.035	3.552	1.094	11.539
Attitude	1.112	0.441	6.345	1	0.012	3.039	1.280	7.217
Constant	-6.658	1.887	12.454	1	0.000	0.001		

Among all the variables that influence the behavior of brushing teeth, the attitude of students to the behavior of teeth brushing using tooth paste or tooth powder made of brick with the value of 0.012 sig with OR 3.039, meaning that a good attitude lead to the possibility of students for teeth brushing teeth using tooth paste. The results also indicated that respondents with family that support teeth brushing behavior using tooth powder made of brick as much as 68% tend to practice teeth brushing using tooth paste with smaller degree.

#### **IV. DISCUSSION**

### **A. Family support**

The results showed that respondents who have family who support brushing behavior using brick as much as 68% tend to behave brush teeth with smaller pasta. This findings conform the previous study that children that teeth brushing using tooth powder made of brick was rooted from parents who practice the same (Budiharto, 2015), and this was at least due to the fact that children imitates the parents, in other words children inadvertently see the behavior of the parents.

Basically the behavior of teeth brushing is a learned behavior. This means that there are influential parties in the process of socialization in behaving in relation to the behavior of teeth brushing. Notoatmodjo (2003), explains that one of the causes of dental health problems in children one of them is the behavioral factor or attitude of ignorance of dental hygiene. This is based on a lack of knowledge about the importance of dental care.

Parents is one of the external factors that influence children behavior, especially the mother which hold the role model in the family, in providing education and family health behaviors that will greatly affecting the health of herself and the whole family. Parents have an important role in shaping the habit of children for teeth brushing at home.

### **B. Cultural support**

The results obtained revealed that respondent living in a cultural environment that supports teeth brushing with tooth powder made of brick was as much as 69%. According to the data obtained children initially brushed their teeth with tooth powder made of brick because they had desire for trial without any knowledge that such behavior can damage enamel.

According to Robbin (2008), culture is one of the basic elements in social life. Culture has an important role in shaping the pattern of thinking and social patterns in society, which also means to shape the personality and mindset of the community. Culture undertaken by the community as something passed down from one generation to the next, this will also influence the behavior of dental health of the child.

## **V. CONCLUSIONS**

Based on the results of this research could be concluded that some respondents who brush their teeth using bricks have families, and a culture that supports brushing teeth using bricks.

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