

Determinants of Parental Behavior in Maintaining Deciduous Teeth in Early Childhood: A Cross Sectional Study

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ABSTRACT:

Deciduous teeth have an important role in the process of growth and development of a child, requiring guidance and mentoring from parents as first educators in early childhood. This study aims to analyze the determinants of parental behavior in maintaining deciduous teeth in early childhood. Method: This was an analytic study with a cross sectional design. The study was conducted on parents of students in PAUD Gandul Sub-District, Cinere District, Depok City, with a total sample of 90 respondents. Collecting data using a questionnaire that has been tested for validity with product moment correlation and reliability with Cronbach Alpha Coefficient. Data analysis using Chi-Square and Logistic Regression. Results: The determinant variables that had a significant relationship with parental behavior were attitudes towards dental health with p value 0.000, access to information p value 0.033 and teacher influence p value 0.037. The variable that has the greatest influence on parental behavior is attitudes towards dental health with an OR value of 5.636. Conclusion: Parents' attitudes have the greatest influence on behavior to maintain deciduous teeth in early childhood.

Keywords: Parental behavior, deciduous teeth, early childhood

INTRODUCTION

Oral and dental health services are an inseparable part of the overall health service effort. The data shows that there is still a high rate of dental and oral pain in the community, on the other hand there is a gap in health status between socio-economies, between regions and between regions in Indonesia. Based on the results of the 2018 Basic Health Research, the proportion of dental and oral health problems was 57.6% and those who received services from dental medical personnel were 10.2%. The proportion of daily brushing behavior was 94.7% and the proportion of proper brushing behavior was 2.8% [1–3].

Bad oral conditions, for example the number of missing teeth as a result of damaged teeth or untreated trauma, will interfere with the function and activity of the oral cavity, thus affecting nutritional status and will have an impact on quality of life. During childhood, this condition will have an impact on the development and well-being of children and will significantly impact their future lives [4,5].

High caries can reduce the quality of life of a child, they feel pain, discomfort, disharmonious facial profile, acute and chronic infections, eating and sleeping disorders; even

severe caries can also increase the risk of being hospitalized so that children do not attend school and can affect children's learning processes. Children who have poor oral health are 12 times more likely to suffer from disruption of activities including not attending school than those who have good oral health. In addition, if the child suffers from tooth decay, the child will feel sick so that the child is lazy to eat and do activities. As a result, the need for food for children's growth and development is not fulfilled. Deciduous teeth are prone to caries because the tooth structure is thinner and smaller than permanent teeth. If the molars fall out prematurely due to caries, it is likely that the permanent tooth growth will be congested because the molars function to hold the space for the growing permanent tooth. If the condition of permanent teeth is crowded, it is difficult to clean from food scraps so that the risk of dental caries will continue in permanent teeth [6–8].

Tooth eruption begins when the tooth begins to protrude from the jawbone through the oral epithelium into the oral cavity. The onset of the eruption of deciduous teeth is an important sign of a change in a child's eating habits. The increase in the number of teeth indicates that the child is ready to accept a more varied diet. Deciduous tooth eruption usually starts at 6 months of age and even at 20 months of age [9,10].

Deciduous teeth are important teeth because they have the function of mastication, phonation, aesthetics and support for periodontal tissue in children. Parents often pay less attention to the health of their children's teeth, thinking that these deciduous teeth are only temporary and will be replaced by permanent teeth, even though the growth and good care of deciduous teeth will affect the growth of permanent teeth later [11].

In connection with the function of deciduous teeth which has an important role in the process of growth and development of a child and the need for guidance and assistance from parents as first educators in early childhood, this study is important to analyze the behavior of parents in maintaining deciduous teeth in early childhood. so that later early childhood children will have good knowledge, attitudes and behavior in maintaining the health of their teeth and mouth.

MATERIAL AND METHOD

The method used in this study is cross sectional. The research was carried out at PAUD ILMI and Harapan III Kindergarten in July - October 2019. The research sample was taken using a total sampling technique, as many as 90 people. The independent variable in this study was the promotion of brushing teeth and the dependent variable was the skill of brushing teeth and the exclusion status of preschool children. The independent variables in this study are predisposing factors (number of children, education, knowledge of dental health, attitudes towards dental health) enabling factors (sources of health financing and access to information media), reinforcing factors (influence of parent groups, influence of teachers in schools). bound is the behavior of parents to maintain deciduous teeth.

Collecting data and information in this study was carried out using a questionnaire. The questionnaire to measure the independent and dependent variables that measure the determinants of parental behavior in maintaining deciduous teeth using a Likert scale [12]. The statements on the questionnaire are favorable and unfavorable with five answer choices. Before filling out the questionnaire, parents fill out the concern informational sheet first as an agreement that they are willing to be research respondents.

Data analysis using bivariate analysis with Chi-Square to measure the determinants of parental behavior in maintaining deciduous teeth in early childhood. Furthermore, multivariate analysis with Logistic Regression was carried out to analyze the determinants of the most dominant behavior in influencing parental behavior in maintaining deciduous teeth in early childhood.

RESULT

Table 1. The results of the Chi-Square analysis of predisposing determinants of the behavior of parents in maintaining deciduous teeth

Determinants <i>Predisposing</i>	Behavior				Total		OR (95% CI)	p value
	Not good		Good		N	%		
	n	%	N	%				
Level of education								
≤ Junior high school	15	62.5	9	37.5	24	100	-	0.494
High school	25	49	26	51	51	100		
College	7	46.7	8	53.3	15	100		
total	47	52.2	43	47.8	90	100		
Number of children								
≤ 3 people	47	54	40	46	87	100	0.366-0.577	0.105
> 3 people	0	0	3	100	3	100		
total	47	52.2	43	47.8	90	100		
Dental health knowledge								
Less	37	60.7	24	39.3	61	100	-	0.063
Enough	8	36.4	14	63.6	22	100		
Good	2	28.6	5	71.4	7	100		
total	47	52.2	43	47.8	90	100		
Attitudes towards dental health								
Less Support	31	73.8	11	26.2	42	100	2,262 - 14,042	0,000
Support	16	33.3	32	66.7	48	100		
total	47	52.2	43	47.8	90	100		

Based on Table 1, the predisposing determinants that have a significant relationship to the behavior of maintaining deciduous teeth in early childhood are attitude variables with a p value of 0.000, while other variables, namely education level, number of children and knowledge, have no significant relationship with parental behavior. p value > 0.05.

The results of the Chi-Square analysis of enabling determinants on the behavior of parents in maintaining deciduous teeth shows that the source of health costs does not have a significant relationship with the behavior of parents in maintaining early childhood teeth, but parents who have insurance mostly support maintaining early childhood teeth (51.7%) compared to parents with source. personal costs, most of which do not support efforts to maintain early childhood teeth (59.4%). The variable access to information has a significant relationship with parental behavior with a p value of 0.033, shown in table 2 below:

Table 2. The results of the Chi-Square analysis of enabling determinants on the behavior of parents in maintaining deciduous teeth

Determinants <i>Enabling</i> (Possible)	Behavior				Total		OR (95% CI)	p value
	Not good		Good		N	%		
	n	%	N	%				
Source of health costs								
Insurance	28	48.3	30	51.7	58	100	0.267 - 1.530	0.430
Personal	19	59.4	13	40.6	32	100		
total	47	52.2	43	47.8	90	100		
Access to information								
Less Support	28	65.1	15	34.9	43	100	1,169 - 6,475	0.033
Support	19	40.4	28	59.6	47	100		
total	47	52.2	43	47.8	90	100		

Table 3. The results of the Chi-Square analysis of reinforcing determinants on the behavior of parents in maintaining deciduous teeth

Determinants <i>Reinforcing</i> (Amplifier)	Behavior				Total		OR (95% CI)	p value
	Not good		Good		N	%		
	n	%	N	%	N	%		
Parent group influence								
Less Support	27	58.7	19	41.3	46	100	0.740 - 3,929	0.296
Support	20	45.5	24	54.5	44	100		
total	47	52.2	43	47.8	90	100		
Teacher influence								
Less Support	31	63.3	18	36.7	49	100	1,144 - 6,328	0.037
Support	16	39	25	61	41	100		
total	47	52.2	43	47.8	90	100		

Based on Table 3, the influence of the parent group does not have a significant relationship with the behavior of parents in maintaining early childhood teeth, while the teacher has a significant influence on the behavior of parents in maintaining early childhood teeth with p value 0.037.

After the bivariate analysis was carried out with Chi Square, then the data were analyzed using Logistic Regression to analyze the independent variables together to determine the variables with the most dominant relationship between predisposing, enabling and reinforcing determinants with parental behavior in maintaining early childhood teeth. If the bivariate results yield p value <0.25, then the variable immediately enters the multivariate stage. For independent variables whose bivariate results p value >0.25 but are substantially important, these variables can be included in the multivariate model [13]. From the results of the Chi Square bivariate analysis, there are 5 independent variable candidates who have p value < 0.25.

Table 4. Results of selection of bivariate candidates

No.	Determinants	<i>p values</i>
1	Number of children	0.105
2	Knowledge of dental health	0.063
3	Attitudes towards dental health	0.000
4	Access to Information	0.033
5	Teacher influence	0.037

Based on Table 4, there are 5 determinant variables that enter the logistic regression selection. Furthermore, multivariable logistic regression analysis was carried out in stages.

Table 5. The first modeling of multivariable logistic regression

Determinants	B	p value	OR	95% CI
Number of children	22,096	0.999	3.944	0.000 -
Knowledge of dental health	0.801	0.058	2.229	0.973 – 5.105
Attitudes towards dental health	1,616	0.002	5.031	1,825 - 13,870
Access to information	0.139	0.793	0.793	0.406 - 3.258
Teacher influence	0.931	0.080	0.080	0.895 – 7.188

The next step is to eliminate / select variables whose p value is > 0.05. From the first modeling, it can be seen that there are four variables with a value of > 0.05, namely the number of children, knowledge of dental health, access to information and the influence of teachers. The first elimination, the variable whose p value is > 0.05 and the largest is excluded from the model, namely the number of children. The results of the second modeling show that the variable p value > 0.05 is access to information, the influence of teachers and knowledge

of dental health. The second elimination, the variable whose p value is > 0.05 and the largest is access to information. The results of the third modeling show that the variables that have p value > 0.05 are knowledge about dental health and the influence of teachers. The third elimination was carried out on the knowledge variable about dental health. The results of the third modeling show that the variable that has a p value > 0.05 is the influence of the teacher. The fourth elimination was carried out on the teacher influence variable. The results of the fourth and final modeling of Multivariable Logistic Regression are as follows:

Table 6. Multivariable logistic regression modeling

Determinants	B	p value	OR	95% CI
Attitudes towards dental health	0.729	0.000	5.636	2.262 – 1.,042

Based on table 6, of the 5 behavioral determinant variables, the variable that has the greatest relationship with the behavior of parents in maintaining deciduous teeth is the attitude towards dental health with a p value of 0.000 and an Odds Ratio value of 5.636.

DISCUSSION

Parents play an important role in mentoring and guiding early childhood perform dental care and mouth. Early childhood dental and oral care is important so that their teeth can function properly for mastication, speech, aesthetics and to maintain room for permanent tooth growth. In addition, the habit of maintaining dental and oral hygiene in early childhood must also be trained so that they can become provisions to care for permanent teeth later independently [14,15].

The determinants of predisposition measured were education level, number of children, knowledge of early childhood dental health and attitudes towards dental health. Based on the results of the study, the predisposing determinant that had a significant relationship with parental behavior in maintaining early childhood teeth was the attitude towards dental health with a p value of 0.000, where most of the parents had the attitude of supporting efforts to maintain early childhood teeth. Education level, number of children and knowledge of people's dental health did not have a significant relationship with parental behavior. The level of knowledge of parents about early childhood dental health was mostly in the low category of 67.8%, but despite having a lack of knowledge, most of them (53.3%) parents have ready support in maintaining deciduous teeth in early childhood.

The results of this study are partly in accordance with the results of research conducted by Suratri et al. (2016) who conducted research on the knowledge, attitudes and behavior of parents regarding the oral health of Kindergarten aged children in Yogyakarta and Banten Province in 2014, that Maternal knowledge and attitudes towards children's oral and dental health / care are quite good, but their behavior is not in accordance with their knowledge and attitudes, where only 50% of children with toothache are taken for treatment to dental health services and most children still have poor habits good in maintaining healthy teeth and mouth. The results of this study are almost in line with the research conducted by Trindade et al. (2014) in Brazil who conducted a study on the knowledge and practices of parents and guardians regarding the oral health of children from shelters and universities in Rio de Janeiro, Brazil which concluded that despite the worse socio-economic conditions, the parents and guardians of the children the shelter had better knowledge of oral hygiene and diet than the university parent respondents [16,17].

Enabling determinants that are measured are the source of costs for parental health services derived from insurance or personal costs and access to information by parents regarding the maintenance of early childhood teeth. Most parents have sources of health financing from insurance and most of them support the behavior of maintaining early childhood teeth, while parents with personal funding sources mostly do not support good behavior to maintain early childhood teeth. Regarding access to information, most parents supported by seeking information related to maintaining dental health in early childhood. Enabling determinants that have a significant relationship with parental behavior is access to information with a p value of 0.033. while the source of health financing has no significant relationship with parental behavior. Health financing through insurance is a mechanism for transferring risk (illness) from individual risk to group risk. By shifting individual risks into groups, the economic burden that must be borne by individual insurance participants will be lighter and contain certainty because of obtaining financial guarantees if they fall ill [18,19].

Family is the smallest pillar in society and parents are the first and foremost educators for the personal formation and character of each individual, in other words, parents play an important and strategic role in delivering education for their children. The success of parents in educating will greatly depend on their skills and parenting styles. The skills and parenting patterns of parents will be greatly influenced by the information they have, so it is important to find information related to how to maintain children's dental health, so that parents can be optimal in mentoring and guiding early childhood in maintaining dental and oral health [1,20,21].

Reinforcing determinants consist of the influence of parent groups and the influence of teachers in schools. Most of the groups of parents do not support the behavior of maintaining deciduous teeth in early childhood, and teachers in schools are largely less supportive of efforts to maintain early childhood teeth with a lack of direction regarding the maintenance of dental health. The determinant of the teacher's influence has a significant relationship with the behavior of parents in maintaining early childhood teeth with a p value of 0.037, while the influence of the parent group has no significant relationship.

Based on the results of the multivariate analysis of 5 determinant variables that passed the bivariate candidate, namely the number of children, knowledge of dental health, attitudes towards dental health, access to information and teacher influence, the variable that has the greatest relationship with the behavior of parents in maintaining early childhood teeth is the attitude. on dental health with a p value of 0.000 and an Odds Ratio value of 5.636. The results of this study indicate that although most of the parents have good attitudes towards dental health, most of the parents have less supportive behavior in the effort to maintain early childhood teeth. The results of this study are in line with research conducted by Djordjevic (2018) from the Pristina Faculty of Medicine, Pristina University in Serbia which examined parental knowledge about the effects of oral hygiene, proper nutrition, and fluorine prophylaxis on oral health in early childhood. parents have knowledge about the impact of oral hygiene, diet and fluorine prophylaxis on oral health, but they do not apply the knowledge they have in practice [22].

Research conducted by Friedman cit. Desai (2019) shows that children under the age of 5 generally spend most of their time with their parents, especially mothers. The early years are a period of primary socialization in which the routines and habits of the earliest childhood are acquired. This study reports that poor parental attitudes towards oral health of infants and children are associated with the prevalence of caries. It has been found that the more positive the attitude of the parents towards dentistry, the better the dental health of their children. In performing dental care, children's thoughts and behavior can be shaped. The way in which it is formed lies in the skill of the dentist, which can make the most uncooperative child become a good dental patient [23,24].

The results of this study indicate that parents have supportive attitudes in maintaining deciduous teeth, but have poor behavior in maintaining deciduous teeth. Parents' behavior is inconsistent with the attitudes they have. Attitude-Behavior shows that attitudes based on high affective-cognitive causes stronger intentions and attitudes with high affective-cognitive behavior are reliable predictors of behavior [25,26]. In connection with the results of this study, it can be concluded that parents have inconsistent attitudes between supportive attitudes, but have poor behavior in an effort to maintain deciduous teeth, because the level of knowledge of parents about deciduous dental health is lacking, so that the intention to make efforts to maintain it. Deciduous teeth are not strong enough, which ultimately results in poor behavior in maintaining deciduous teeth

CONCLUSION

Based on the research results, it can be concluded that:

1. Determinants of predisposition, most parents have completed high school education (56.7%), have children less than or equal to 3 people (96.7%), have knowledge of dental health in early childhood with a low category (67.8%), have a supportive attitude to maintain early childhood teeth (53.3%).
2. Enabling determinants, most parents have sources of health financing from insurance (64.4%), supporting maintaining early childhood dental health by accessing information related to children's dental health (52.2%).
3. Reinforcing determinants, most parents have a less supportive effect (51.1%) and teacher influence (54.4%) is less supportive of efforts to maintain deciduous teeth in early childhood.
4. Determinant variables that have a significant relationship with parental behavior in maintaining deciduous teeth in early childhood are parents' attitudes towards dental health p value 0.000, access to information p value 0.033 and teacher influence p value 0.037.
5. The determinant variable that has the greatest relationship to parental behavior is the attitude towards dental health with the Odd Ratio value 5.636, meaning that mothers who have a supportive attitude have 5 times the chance to behave well in an effort to maintain milk teeth in early childhood.

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