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Original Research Article

Relationship of Mother's Behavior With The Risk of Dental Caries in Children in Arifa Kindergarten, Banda City, Aceh

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Abstract: Maintaining teeth and mouth is very important and must be considered, especially for mothers in maintaining dental health for children. School-age children have a high risk of developing caries due to dietary factors, fluoride use, bottle feeding, and parents' level of knowledge and behavior related to dental and oral care. In kindergarten-age children, dental and oral care still depends on the mother, who is the closest figure to a child. The purpose of this study was to determine the behavior of mothers in caring for children's teeth on the incidence of child caries in Arifa Kindergarten, Banda Aceh City. The study used a cross-sectional analytic method on 30 mothers and their children. Mothers were given a questionnaire to determine their knowledge and behavior in caring for children's teeth; then, an oral examination was carried out to determine the caries index of children from mothers who had filled out the questionnaire. The study's results found a relationship between maternal behavior and the risk of dental caries in children at Arifa Kindergarten, Banda Aceh City, as evidenced by the value of the chi-square statistic test p=0.034 (α=0.05). The analysis of 30 mothers showed 12 respondents had less behavior and 9 with a high caries risk category. Eighteen respondents had good behavior, and 11 had caries risk in the moderate category. There is a relationship between the behavior of mothers in caring for children's teeth to the incidence of child caries in Arifa Kindergarten, Banda Aceh City.

Keywords: Mother's Behavior, Risk of Dental Caries.

INTRODUCTION

Dental and oral health disease ranks first in the top 10 diseases often suffered by Indonesia's people [1]. Indonesian people's perception and behavior toward dental and oral health are still wrong. This can be seen from the high number of dental caries and oral diseases in Indonesia, which tend to increase [2, 3, 4]. Dental caries is still a health problem for children. The World Health Organization (WHO) states that the incidence of dental caries in children is 60% -90% [5, 6, 7]. In Indonesia, the prevalence of dental caries according to age group, age three years is 60%, age four years is 85%, and age five years is 86.4%. This shows that the prevalence of caries in preschoolers is still relatively high [8, 9]. Dental caries is an infectious disease caused by the demineralization of enamel and dentin, which is closely related to the consumption of cariogenic foods. Dental caries occurs due to the role of caries-causing bacteria collectively called Streptococcus mutants [10]. The risk of caries varies depending on the balance of triggering and inhibiting factors for caries. Indirect factors that play a role in the occurrence of caries include socioeconomic, behavioral, and environmental. The prevalence of dental caries is higher in children of low social status, partly due to low visits to dental health services [11]. Caries risk is divided into three levels, namely high, medium and low caries risk. In order to identify the caries risk in children, a caries risk assessment is used [12]. The risk factors for caries are influenced by several factors, including internal factors, such as tooth morphology, the arrangement of teeth in the oral cavity, tooth structure, and saliva [13]. At the same time, the external factors are poor child behavior, lifestyle, diet, snacking habits, poor oral hygiene, frequency and habit of brushing teeth, use of toothpaste, poor nutrition, geographical location, the content of drinking water, dental health services, and nutrition bottle feeding before bed [14]. Dental caries are common in children because children tend to prefer sweet foods, which can cause dental caries [15, 16, 17]

Maintenance of dental and oral health is closely related to plaque control. The most straightforward plaque control we can do at home is brushing our teeth [18]. The 2013 Basic Health Research (RISKESDAS) states that almost all residents brush their teeth when bathing, and very few people brush them after breakfast [19]. At school age, many activities will significantly impact the child's daily schedule; routine personal hygiene should be

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scheduled. The ideal development of a regular self-cleaning schedule can be rehearsed with a routine or regular schedule during the preschool period. Parents should remain active in supervising dental and oral health care. Parental assistance is needed to help reduce or remove plaque on the teeth; the selection of the size and fineness of the toothbrush bristles also plays a vital role in maintaining the health of children's mouths and teeth. The 2018 Basic Health Research Report (Riskesdas) shows that the prevalence of dental caries in Indonesian society, including children, is 88.8% [20]. According to the age group 5-9 years, the prevalence of dental caries (92.6%) with an average DMF-T index of 0.7. The DMF-T index increases with age. The province of Aceh showed that 55.3% of those with dental and oral problems had tooth decay/cavities/pain (47.0%), missing teeth due to extraction/date alone (19.8%), teeth having been patched or filling due to cavities (4.6%), and loose teeth (9.3%). According to age characteristics, the age group of 5-9 years is the highest age group with tooth decay/cavities/sickness problems is 54.0%. Based on data from the Baiturrahman Public Health Center in 2021, the prevalence of the population who visited the Baiturrahman Public Health Center aged 2-5 years who experienced caries was 12%. Meanwhile, a preliminary study conducted at Arifa Kindergarten, Banda Aceh City, showed that 70% of the ten students had dental caries. This study aims to determine the relationship between maternal behavior and the risk of dental caries in children at Arifa Kindergarten, Banda Aceh City.

METHODOLOGY

This research is analytic with a cross-sectional study approach. A cross-sectional study is observational research that analyzes variable data collected at one particular point across a predefined sample population or subset. This research was conducted on Arifa Kindergarten children in Banda Aceh from January to March 2022. The population in this study were all students at Arifa Kindergarten in Banda Aceh City, totaling 30 students and their mothers as respondents.

Sampling in this study used a total sampling technique. The instruments used were a questionnaire to determine the mother's behavior in maintaining children's dental and oral health and a caries risk simulator instrument to measure the child's caries risk score And Diagnostic Sets. Data analysis used a Chi-Square statistical test with a degree of confidence (alpha) = 0.05.

RESULTS

Univariate Analysis

Univariate analysis is an analysis used on one variable to know and identify the characteristics of that variable. Based on the results of data processing, the following results were obtained**:**

Table 1: Frequency Distribution Based on Mother's Behavior in Arifa Kindergarten Banda Aceh City

No	Mom's behavior	Frequency	%
1	good	18	60
2	Not good	12	40
Amount		30	100

Based on table 1 above, it can be seen that the mother's knowledge about the maintenance of dental and oral health of most children is in the poor category, namely 18 people (60%).

Table-2: Relationship between Mother's Behavior and Risk of Dental Caries in Arifa Kindergarten Children, Banda Aceh City

Child Caries Risk	Frequency (N)	Personates %
Low	2	6.7
Currently	14	46.7
Tall	14	46.7
Total	30	100.0

Table 2 above shows that the risk of dental caries for Arifa Kindergarten children is categorized as medium and high for as many as 14 respondents (46.7%).

Bivariate Analysis

Bivariate analysis is data analysis conducted to find a correlation or influence between 2 or more variables studied. In this study, we looked at the relationship between maternal behavior and the risk of dental caries in Arifa Kindergarten children, Banda Aceh City.

Table-3: The Relationship between Mother's Behavior and Dental Caries Risk in Arifa Kindergarten Children, Banda Aceh City

Mother's Behavior	Dental Caries Risk						Amount	%	P - value
	Low		Medium		High				
	F	%	F	%	F	%			
Good	2	6.7	11	37.7	5	16.6	18	60	= 0.05 _ df=2 p=0.034
Less	0	0.0	3	10	9	30	12	40	
Total	2	6.7	14	46.7	14	46.6	30	100	

Based on table 3 above, of the 30 mothers with poor behavior, as many as 12 respondents with caries risk in the high category are nine respondents 30%. Moreover, mothers with good behavior are 18 respondents with caries risk in the moderate category, namely 11 respondents, 37,7. The results of the chi-square statistical test showed that the p-value was 0.034 while =0.05 and df=2 because p<α, so Ha was accepted, meaning that there was a relationship between maternal behavior and the risk of dental caries in Arifa Kindergarten children, Banda Aceh City.

DISCUSSION

The study's results found a relationship between maternal behavior and the risk of dental caries in Arifa Kindergarten children, Banda Aceh City, as evidenced by the P-value of 0.034 while =0.05 and Df=2. School-age children in Banda Aceh City have a high risk of developing caries due to dietary factors, fluoride use, bottled milk, and parents' level of knowledge and behavior related to dental and oral care. In Kindergarten Age Children, Dental and Oral Care Still Depend On The Mother Who Is The Closest Figure Of A Child. Community Dental Oral Epidemiology states that Kindergarten age children have a high risk of developing caries. In kindergarten-age children, dental and oral care still depends on parents' behavior, especially mothers as the closest figure of a child. Mother's knowledge and behavior influence guiding, providing explanations and supervising children in maintaining excellent and correct dental and oral health, which affects the risk of caries in the child. A mother's behavior is formed as a result of two main factors, namely stimuli, which are external factors from an individual, and responses which are internal factors [21].

External factors or stimuli are environmental factors, both physical and non-physical, in the form of social, cultural, economic, and political. External factors, which are the most significant in shaping human behavior, are the social and cultural factors in which a person is located. In contrast, the internal factors determining a person's response to external stimuli are attention, observation, perception, motivation, fantasy, and suggestion [22]. One of the successes in maintaining dental and oral hygiene can be achieved through the ability to maintain good oral and dental hygiene, which is influenced by knowledge. Toddler-age children still do not know about maintaining dental and oral hygiene. Children are still very dependent on adults to keep their teeth clean and healthy because most of them lack knowledge about dental health compared to adults. Mother's behavior in knowing the income of children and the mouth of children under five is in the high category; the respondents mostly understand the importance of maintaining the dental health of their children under five, and it is proven that most of the respondents answered that brushing their teeth should be This is done in the morning and evening shower. The respondents know the information based on their habits from childhood until it arrives. These results follow previous research that children with high caries experience at the following age will also suffer from high caries [23].

Dental caries contain more bacteria that produce acid, resulting in a more significant decrease in plaque pH than teeth without caries [24]. The level of education is very influential on knowledge, attitudes, and healthy living behavior. A person with a higher level of education will have good knowledge and behavior about health, which will affect his behavior to live a healthy life. In terms of age and caries severity, it was found that caries severity increased with the age of the child.

Research on the relationship between a child's age and the incidence of caries shows that the older the child, the more susceptible they are to caries due to the more prolonged exposure to risk factors for dental caries, especially if the child has a habit of drinking milk and the child's teeth are not cleaned properly [25]. Socioeconomic status affects the behavior and ability of families to meet their daily needs, including behavior related to dental health care and fibrous food nutrition that can prevent caries. Because most of the respondents have a good socioeconomic status, this also influences the formation of behavior good in caring for children's teeth.

CONCLUSION

There is a relationship between maternal behavior and the risk of dental caries in Arifa Kindergarten children, Banda Aceh City, p-value = 0.034. It is hoped that mothers will pay more attention to their children's dental and oral health by adding insight and knowledge about the dangers of dental caries risk to children.

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