

The Relationship Between the Mother's Role in Dental Care and The Status of Oral Hygiene in Children in Peuniti Village, Banda Aceh City

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ABSTRACT:

Introduction: The mother's role is crucial in shaping a child's behavior, providing guidance, understanding, reminders, and facilitation in maintaining oral hygiene. The aim of this study was to determine the relationship between the mother's role in dental care and the status of oral hygiene in children in Peuniti Village, Banda Aceh

Materials & Methods: This research adopted an analytical approach with a cross-sectional design. The research sample consisted of 40 children aged 3-12 years and their mothers as respondents, selected using cluster sampling method from those who had resided in Peuniti village for at least one year. The research instruments included questionnaires, diagnostic sets, the PHP-M index, disclosing agents, and patient status cards (KSP).

Results: The study was conducted in January 2024, and statistical analysis was performed using the SPSS software with a chi-square test ($\alpha=0.05$). The results indicated a significant relationship between the mother's role as an educator ($p=0.018$), motivator ($p=0.016$), and facilitator ($p=0.015$) in dental care and the status of oral hygiene in children in Peuniti Village, Banda Aceh City

Conclusion: there is a correlation between the mother's role as an educator, motivator, and facilitator in dental care and the status of oral hygiene in children in Peuniti Village, Banda Aceh City.

KEYWORDS: Behavior shaping, Dental care, Oral hygiene, Peuniti Village, Role of the mother

INTRODUCTION

Dental and oral health issues are global health concerns that require attention. According to data from the World Health Organization (WHO), approximately 50 percent of the world's population has dental and oral health problems(1–4). These issues include tooth decay, problems with the supporting tissues of the teeth, gum and periodontal problems, tooth loss (edentulism), and even oral cavity cancer. In Indonesia, around 57.6% of the population experiences dental and oral health problems, but only about 10.2% of them have access to dental healthcare services(5–7). The prevalence of dental problems in Indonesia includes tooth decay/cavities/toothaches (45.3%). The Basic Health Research (Riskesdas) in 2018 stated that the largest proportion of dental problems in Indonesia is tooth decay/cavities/toothaches (45.3%). Meanwhile, the majority of oral health problems experienced by the Indonesian population are swollen gums and/or abscesses (14%). Out of the 57.6% of the population with dental and oral health issues, only about 10.2% have access to dental healthcare services. The COVID-19 pandemic has also affected people's access to healthcare, including dental and oral health services(8–11). Parents play a crucial role in maintaining the dental and oral hygiene of their children, which can have an impact on their dental and oral health status. As motivators, educators, and facilitators, mothers can employ various efforts to prevent childhood dental caries, such as monthly dental visits and fluoride supplementation(12–15). Mothers can also provide health education to their families, instilling healthy behaviors that lead to the desired changes and optimal levels of health. The role of parents is vital in maintaining the dental and oral health of children. As the closest caregivers, parents have the responsibility to learn how to care for their children's teeth and guide them in proper brushing techniques. Although baby teeth are temporary, proper care is crucial as it can affect the growth of permanent teeth. However, in reality, many parents underestimate the importance of baby teeth care due to the belief that they will be replaced by permanent teeth. Based on dental examinations of 10 children in Peuniti village, it was found that 60% of the children suffered from dental caries, and the average dental and oral hygiene status in the village was categorized as poor with a score of 35. These findings fall short of the government's expectation of dental and oral hygiene status with a PHP-M score of <15. From interviews with their mothers as respondents, 80%

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of the children expressed a strong liking for sweets, such as chocolates, candy, and ice cream, and they haven't mastered proper toothbrushing techniques. Efforts are needed to increase awareness and promote good dental hygiene practices among children and their mothers. Therefore, the aim of this study is to investigate the relationship between the role of mothers in dental care and the dental and oral hygiene status of children in Peuniti village, Banda Aceh.

METHODS

This study is an analytical research aimed at determining the relationship between the role of mothers in dental care and the dental and oral hygiene status of children in Peuniti village, Banda Aceh. The research design used is cross-sectional, where the measurement of the independent variable (the role of mothers in dental care) and the dependent variable (dental and oral hygiene status of children) is conducted simultaneously at the same time. The population in this study consists of all mothers and children residing in Peuniti village. The research focuses on the age group of children aged 3-12 years, with inclusion criteria established to ensure that the selected respondents have characteristics relevant to the research objectives. The research sample consists of 40 children aged 3-12 years and their mothers as respondents, who have been residing in Peuniti village for at least one year. Exclusion criteria are used to eliminate children and mothers with a history of systemic diseases that may affect dental health. The sampling technique used is cluster sampling method. The research instrument consists of a questionnaire used to explore the role of mothers as motivators, educators, and facilitators in maintaining children's dental hygiene through interviews with the mothers as respondents. Additionally, diagnostic instruments, disclosing agents, and patient status cards (KSP) are used to examine the dental and oral hygiene status of children in Peuniti village, Banda Aceh. Data collection is conducted through two sources. Primary data is obtained through interviews with the mothers as respondents and direct examination of the dental and oral hygiene status of children in Peuniti village, Banda Aceh. Meanwhile, secondary data is obtained from the profile of Peuniti Village, which includes information about the characteristics and conditions of the village. Data analysis is performed using bivariate analysis, particularly the chi-square statistical test with a significance level of α of 0.05.

RESULTS

Univariate Analysis

Characteristics of Respondents (Mothers)

The frequency distribution of characteristics based on age and education of the mothers as respondents regarding their children in Peuniti village, Banda Aceh, can be described as follows:

Table 1. Frequency Distribution of Characteristics Based on Age and Mother's Education as Respondents in Children in Peuniti Village, Banda Aceh

Characteristic of Respondents (Mothers)	F	%
1. Age		
a. 30 - 35 years	15	50
b. 36 - 40 years	15	50
2. Education Level		
a. High School (SMA)	20	50
b. Diploma (D3)	10	25
c. Bachelor's Degree (S1)	10	25

Table 1 shows that the characteristics of the respondents based on age indicate that the majority of them are aged 30-35 years (50%). Regarding the characteristics of the respondents based on education, the majority have completed high school (50%).

CHARACTERISTICS OF CHILDREN

The frequency distribution of characteristics based on age and gender of children in Peuniti village, Banda Aceh, can be described as follows:

Table 2. Frequency Distribution of Characteristics Based on Age and Gender of Children in Peuniti village, Banda Aceh.

Characteristics of Children	F	%
1. Age		
a. 3-5 years	10	25
b. 6-8 years	20	50
c. 9-12 years	10	25
2. Gender		
a. Male	20	50

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b. Female	20	50
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Table 2 shows that the characteristics of the children based on age indicate that the majority of them are aged 3-5 years (50%). Regarding the characteristics of the children based on gender, the majority are male (50%).

MOTHER'S ROLE (EDUCATOR, MOTIVATOR, FACILITATOR)

The frequency distribution of the respondents' roles in maintaining children's dental health in Peuniti village, Banda Aceh, can be seen in the table below.

Table 3. Frequency Distribution of Respondents' Roles in Maintaining Children's Dental Health in Peuniti village, Banda Aceh.

Role	F	%
Educator		
1. Good	15	37.5
2. Poor	25	62.5
Motivator		
3. Good	10	25
4. Poor	30	75
Facilitator		
1. Good	15	37.5
2. Poor	25	62.5

The table outlines the characteristics of respondents in their respective roles as educators, motivators, and facilitators, highlighting the frequency and percentage distribution for each category. It reveals that among the respondents, 37.5% were considered effective educators, while 62.5% were perceived as less proficient in this role. Similarly, in the role of motivator, only 25% of respondents were rated positively, with the majority (75%) being assessed as inadequate. Regarding facilitation, 37.5% of respondents were deemed effective, while 62.5% were considered to have room for improvement.

DENTAL AND ORAL HYGIENE STATUS OF CHILDREN (ORAL HYGIENE INDEX-SIMPLIFIED, OHI-S)

The frequency distribution of the dental and oral hygiene status (OHI-S) of children in Peuniti village, Banda Aceh, can be seen in the table below.

Table 4. Dental and Oral Hygiene Status (OHI-S) of Children in Peuniti Village, Banda Aceh.

Dental and Oral Hygiene Status of Children	Category	F	%
	Very Poor	8	20
	Poor	24	60
	Good	6	15
	Very Good	2	5

Table 4 shows that the largest distribution of the dental and oral hygiene status of children falls under the category of poor (60%).

BIVARIATE ANALYSIS

The bivariate analysis aims to test the hypotheses in this research. These hypotheses are tested using the Chi-square statistical test. The results of the statistical analysis are as follows.

Table 5. The Relationship between the Mother's Role as an Educator, Motivator, Facilitator in Dental Health Maintenance and the Dental and Oral Hygiene Status of Children in Peuniti village, Banda Aceh.

Educator	Oral Health Status of Children								Total	%	Statistic test
	Very Good		Good		Poor		Very Poor				
	F	%	F	%	F	%	F	%			
Good	2	13,3	3	20	8	53,3	2	13,3	15	37,5	$\alpha=0,05$
Not good	5	8	5	8	10	80	5	8	25	62,5	df=3
Total	7	17,5	8	20	18	45	7	17,5	40	100	p=0,018

The results of the chi-square statistical test confirm a significant correlation between the mother's role as an educator, motivator,

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Motivator											
Good	2	6,7	5	16,7	0	0	0	0	10	25	$\alpha=0,05$
Not good	0	0	0	0	9	30,0	14	46,6	30	75	df=3
Total	2	6,7	5	16,7	9	30,0	14	46,6	40	100	p=0,016
Facilitator											
Good	2	6,7	5	16,7	3	10,0	0	0	15	37,5	$\alpha=0,05$
Not good	0	0	0	0	6	20,0	14	46,6	25	62,5	df=3
Total	2	6,7	5	16,7	9	30,0	14	46,6	40	100	p=0,015

and facilitator in maintaining children's dental health in Peuniti village, Banda Aceh. The statistically significant p-values are $p=0.018$, $p=0.016$, and $p=0.015$, respectively. This indicates that the mother's role in educating, motivating, and facilitating children in their dental health care has a significant impact in the context of that community.

DISCUSSION

The results of the chi-square statistical test reveal compelling evidence supporting a substantial correlation between a mother's role as an educator, motivator, and facilitator in upholding children's dental health in Peuniti village, Banda Aceh. The obtained p-values of 0.018, 0.016, and 0.015 for the respective factors indicate statistical significance. These findings bear testament to the profound impact that mothers' involvement in educating, motivating, and facilitating children has on their dental well-being within the specific community. The implications of these results underscore the crucial influence that mothers wield in imparting knowledge to children regarding proper dental hygiene practices. Such practices encompass regular brushing, flossing, and the limitation of sugary foods and beverages. By actively educating children about the significance of maintaining dental hygiene, mothers assume responsibility not only for their own dental health but also for the well-being of their children. They equip them with the necessary information to make informed choices and foster positive oral health habits from an early age. It is worth noting that numerous studies have delved into various facets of children's oral health data. These investigations have explored diverse topics related to children's dental health, including the impact of parental involvement, oral hygiene practices, dietary habits, and preventive measures. The accumulation of scientific research in this domain serves to enrich our understanding of the complex interplay between various factors influencing children's oral health outcomes. Lasimpala (2022) found that the quality of dental health services in Palu, Indonesia, is suboptimal due to factors such as a shortage of medical personnel and limited resources(16). Astuti (2019) emphasizes the importance of a culture of information security in healthcare providers, including dental healthcare services(17). Annisa (2022) highlights the need for empowering health cadres to ensure accurate and complete health record data, including those related to children's oral health(18). Lastly, Salagare (2020) underlines the importance of legal protection for patients' personal data in technology-based healthcare services, which is relevant to the collection and storage of oral health data(19,20). These studies complement the findings of the chi-square analysis and provide additional insights into the broader context of children's oral health. They highlight the challenges and considerations in delivering optimal dental health services, including the need for adequate resources, information security, empowered healthcare personnel, and legal protection of personal data. By addressing these factors, it is possible to further enhance the impact of the mother's role in promoting and maintaining children's dental health in Peuniti village, Banda Aceh.

CONCLUSIONS

There is a significant relationship between the mother's role as an educator, motivator, and facilitator in maintaining children's dental health in Peuniti village, Banda Aceh, with p-values of $p=0.018$, $p=0.016$, and $p=0.015$, respectively. Therefore, it is recommended that mothers enhance their roles by providing encouragement and support to their children, as well as teaching them about dental and oral health.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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