



---

## **Family, Teacher, and Peer-Support for the Dental Health Behavior among School-Age Children in Kwanyar Sub-District**

**Ach Arfan Adinata<sup>1\*</sup>, Nursalam<sup>2</sup>, Mira Triharini<sup>3</sup>**

Faculty of Nursing, Universitas Airlangga, Indonesia

---

### **Article info**

---

#### **Article history:**

Received; July 10th, 2019

Revised: August 01st, 2019

Accepted: September 02nd,  
2019

---

#### **Correspondence author:**

Arc Arfan Adinata

E-mail: [ach.arfan.adinata-  
2017@fkip.unair.ac.id](mailto:ach.arfan.adinata-2017@fkip.unair.ac.id)

---

#### **DOI:**

10.35654/ijnhs.v3i3.223

---

**Abstract.** Oral and dental health is an integral part of overall body health and is common in school children. Support from family, teachers, and peers plays an essential role in the dental health behavior of school-age children. This study aims to identify the relationship between interpersonal support and the behavior of elementary school students in maintaining dental health in Kwanyar District, Bangkalan Regency. Samples in the study of 150 grade 5 primary school students in Kwanyar Sub-District, Bangkalan Regency were obtained using Simple Random Sampling. The independent variable is interpersonal support, and the dependent variable is student behavior in maintaining dental health. The time of the study began April 08th - May 11th, 2019. The results of the study showed that family support was mostly in the good category, 71.3%. Teacher support is mainly in the good category 62.7% and friend support mainly in the less group 51.3%. The behavior of students in maintaining dental health is mainly in the good category 66.0%. The statistical test used is the Chi-Square test using SPSS 16.0. Chi-square test results were obtained on family support p-value 0.001 ( $p < 0.05$ ), on teacher support p-value 0.032 ( $p < 0.05$ ) and peer support value 0.804 ( $p > 0.05$ ). It means there is a relationship between family support and teachers with behavior in the Kwanyar District of Bangkalan District Work Area in 2019, while peer support has no ties. Conclusion: Interpersonal support, which includes family support and teachers, has an important role in shaping the behavior of school-age children and maintaining dental health. Parental and teacher support helps children in facing obstacles in maintaining dental health

**Keyword:** dental health, school-age children, interpersonal support



This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License CC BY -4.0

## INTRODUCTION

Dental and oral health has an impact on public health. School-age children are a group of people who have a high risk of health. Many health problems occur in school-age children, including dental health problems, especially dental caries, which have various effects on children's health, including pain in the teeth, which affects low self-esteem and poor children's performance in school (1,2). Oral diseases, particularly dental caries, are major public health problems in the Asian region. The burden of illness in children results in significant negative impacts on their health and growth, as well as their social and emotional wellbeing (3). The health of school-age children will determine the health of the community and nation in the future, the life process in school is essential for the stage of child development. Teeth and mouth health behaviors that are bad for children to persist into adulthood and can cause an increased risk of chronic diseases such as cardiovascular disease (4).

The primary mouth disease is dental caries, which is the most common disease found in the Southeast Asia region, occurring 70% to 95% in school-age children (5). The behavior of brushing Indonesian residents for age groups  $\geq 10$  years every day has been done as much as 93.8%. However, the correct brushing behavior is still low at 2.3% and in East Java below the national average of 1.5%. Based on a residence, respondents in urban areas have more teeth brushing behavior than rural areas (6).

Interpersonal support from family, teachers, and peers plays a vital role in the dental health behavior of school-age children. Children are more likely to behave that improves health when essential people around them have good behavior, so they become role models for children and provide assistance and support to enable these behaviors. Family, teacher, and peers are essential sources of interpersonal support that can improve or reduce children's behavior in dental health (7). Parents and schoolteachers are important informants in oral health, so their involvement should be considered in planning oral health education for children. The school may serve as an effective platform for promoting oral health concerning children and families (8).

There have been many studies on the role of family, teachers, and peers. Previous research conducted by Chandrashekar et al. (9) concluded that dental health education delivered by teachers is often more effective than those offered by professionals but rarely. Research conducted by Bozogmehr et al. (10) shows that parents' knowledge and attitudes influence children's dental health behavior. Research conducted by Romadlon et al. 2016 (11) concluded that health education with peer support education methods was effective in improving the behavior of preventing dental caries in children in school age. But few have discussed family, teacher, and friend's support for the behavior of school-age children in maintaining healthy teeth.

Based on the above problems, this study formulated a study of the relationship between family, teacher, and peer support for school-age children's dental health behavior in the Kwanyar sub-district.

## OBJECTIVE

This study aims to analyze the relationship of interpersonal support, which includes the support of family, teachers, and peers with the behavior of school-age children in maintaining dental health.

## METHOD

This study used a quantitative method with a cross-sectional design. This research was conducted in the elementary school in the work area of Kwanyar Subdistrict, Bangkalan Regency on April 08th - May 11th, 2019. This study sample comprised of 150 fifth-grade students in primary schools in the Kwanyar Sub-District working area.

The sampling technique used in this study uses a type of cluster sampling using sample grouping by region or location. Each area is sampled by simple random sampling. The research instrument used a questionnaire from the respondents consisting of interpersonal support questionnaires and dental health behaviors. The interpersonal support questionnaire consisted of families, teachers, and friends, where the instrument was compiled using a questionnaire developed by researchers based on the Health Promotion Model Manual (7).

The instrument for collecting data about behavior using a questionnaire developed by researchers based on the concept from Morowatisharifabad and Shirazi, 2007 (12). The data analysis used was univariate analysis and bivariate analysis using Chi-Square with a significance level of  $\alpha < 0.05$

## RESULTS

### Frequency of interpersonal support

Table 1. Shows that interpersonal support in the work area of Kwanyar District, Bangkalan District on family support, is mostly in the good category of 71.3%. Teacher support is mainly in the good category of 62.7, and peer support is mainly in the less category, 51.3%

Table 1. Frequency of interpersonal support

Interpersonal Support	n	%
Family		
Good	107	71.3
Enough	29	19.3
Less	14	9.3
Total	150	100
Teacher		
Good	94	62.7
Enough	29	19.3
Less	27	18
Total	150	100
Peer		
Good	17	11.3
Enough	56	37.3
Less	77	51.3
Total	150	100

### Frequency of behaviors

Table 2. Shows that the behavior of maintaining the dental health of school-age children in the working area of the Kwanyar District, Bangkalan District is mostly in the good category of 66.0%.

Table 2. The average of IgA hormone level before and after intervention between the experimental group and the control group

Behavior	Frequency	Percent
Good	99	66%
Bad	51	34%
Total	150	100%

### Relationship between Interpersonal Support and Behavior

The statistical test used is the Chi-Square test using SPSS 16.0. Chi-square test results were obtained on family support p-value 0.001 (<0.05), on teacher support p-value 0.032 (<0.05) and peer support value 0.804 (> 0.05). It means there is a meaningful relationship between family support and teachers with behavior in the Kwanyar District of Bangkalan District Work Area in 2019, while peer support has no ties.

Table 3. Relationship between Interpersonal Support and Behavior

Variable	Behavior			P-Value
	Good (%)	Bad (%)	Total (%)	
<b>Family Support</b>				
Good	77 (51.3)	30 (20.0)	107 (71.3)	0.001
Enough	19 (12.7)	10 (6.7)	29 (19.3)	
less	3 (2.0)	11 (7.3)	14 (9.3)	
Total	99 (66.0)	51 (34.0)	150 (100)	
<b>Teacher support</b>				
Good	66 (44.0)	28 (18.7)	94 (62.7)	0.032
Enough	21 (14.0)	8 (5.3)	29 (19.3)	
less	12 (8.0)	15 (10.0)	27 (18.0)	
Total	99 (66.0)	51 (34.0)	150 (100)	
<b>Peer support</b>				
Good	12 (8.0)	5 (3.3)	17 (11.3)	0.804
Enough	38 (25.3)	18 (12.0)	56 (37.3)	
less	49 (32.7)	28 (18.7)	77 (51.3)	
Total	99 (66.0)	51 (34.0)	150 (100)	

## DISCUSSION

The results showed that respondents with good family support mostly had behavior in maintaining dental health in the good category of 51.3%. The chi-square statistic results with a 95% confidence score obtained on family support with p-value = 0.001 (p<0.05). This means that there is a significant relationship between family support and the behavior of maintaining the dental health of school-age children in the Kwanyar Sub-District of Bangkalan in 2019.

Parents' dental health habits, such as tooth brushing habits and the frequency of consuming sweet foods, are important determinants of this behavior in their children (10,13). Parents play a role in nurturing and understanding the importance of brushing their teeth, giving examples of brushing their teeth properly and telling them the right time to brush their teeth. Parents should prepare a means to clean their children so they can improve their health.

A study conducted by Bombert et al. (14) concluded that social health determinants had a significant impact on oral and dental health habits. They also suggested future approaches should be specific to several subpopulations and should include parents, schools, health centers, and communities to build effective long-term strategies.

The results showed that respondents with good teacher support mostly had behavior in maintaining dental health in the good category of 44.0%. The chi-square statistic results with a 95% confidence score were obtained on teacher support with p-value = 0.032 ( $p < 0.05$ ) means that there is a significant relationship between teacher support and the behavior of maintaining the dental health of school-aged children in Kwanyar District, Bangkalan Regency, in 2019.

The teacher can act as a counselor, instructor, and motivator to show something good, for example, in maintaining dental health. Teachers, as educators or instructors, are the determining factors or key holders of students' success in behaving healthily in school. Teachers in schools not only teach but also follow the process of changing students' behavior. Teachers act healthily by applying to brush their teeth in schools so that they can be imitated by students and make activities that better integrate messages about brushing their teeth (9).

Deinzer et al. (15), in his research analysis, showed that children had low efficiency in adopting tooth brushing recommendations given in prevention programs. The Nguyen et al. (16) study of the School Oral Health Promotion Program has not improved the oral health behavior of school children. This is surprising because great efforts are being made to help children internalize recommendations so that future research is needed to understand better the factors that hinder the adoption of toothbrushing recommendations in children and what efforts are required to improve their brushing ability.

The results of this study are supported by Riolina (17) that teachers can guide to maintain healthy teeth in the form of brushing their teeth after midday snacks that can reduce plaque rates in school-aged children. Dental education provided at an early age, through regular dental health programs, with the involvement of regular teachers and parents, will improve dental and oral health (18).

Respondents with peer support were less likely to have behavior in maintaining dental health in the good category by 32.7%. The chi-square statistic results, with a 95% confidence score, were obtained at the support of friends with p-value = 0.804 ( $p > 0.05$ ) means that there is no significant relationship between friend support and the behavior of maintaining dental health in school-age children in Kwanyar Sub-District, Bangkalan Regency in 2019.

Peer support cannot make good behavior overall because the assistance provided is not optimal. Besides that, friends do also not all provide positive examples like not all friends take care of their teeth or brush their teeth properly. Besides that, a close friend has not all provided advice on brushing teeth correctly and adequately (19).

This study, supported by Charkazi et al. (20), found that students presented that the following individuals (interpersonal influences) persuaded them to perform oral and dental health behaviors: 47% father, 61% mother, 29% teacher, sibling 31.8 % and peers 11.9%. Mothers had the most significant influence on the dental and oral health behavior of school-age children, while peers had the smallest impact.

There are certain limitations of this study because this research was conducted on students in rural areas so that generalizations were applied to similar conditions. Thus, further research with children in urban areas and samples is more significant. Despite these limitations, the findings of this study are essential.

## CONCLUSION

Based on the results of the study, it can be concluded that interpersonal support, which includes family support and teachers, has a vital role in shaping the behavior of school-age children and maintaining dental health. Parental and teacher support helps children in facing obstacles in maintaining dental health. While friend support does not affect children's behavior because not all friends take care of their teeth or brush their teeth properly, yet all of them advise on brushing their teeth properly.

## Ethical clearance

This study has obtained ethical feasibility from the Ethics Committee of the Nursing Faculty of Airlangga University Number 1332-KEPK on March 21st, 2019

## REFERENCES

- (1) Kamran A, Bakhteyar K, Heydari H, Lotfi A, Heydari Z. Survey of Oral Hygiene Behaviors, Knowledge and Attitude among School Children : A Cross-Sectional Study from Iran. 2014;2(2):83–95.
- (2) Maharani DA, Adiatman M, Rahardjo A, Burnside G, Pine C. An assessment of the impacts of child oral health in Indonesia and associations with self-esteem, school performance, and perceived employability. BMC Oral Health. 2017;17(1):1–10.
- (3) The 7th Asian Conference of Oral Health Promotion for School Children (ACOHPS). Good Oral Health as Investment in Children ' s future. Bali, Indonesia; 2013.
- (4) Kim S-J, Cho H, Baek S-S. Effects of Healthy Life Practice Education on Reported Health Behaviors Among Fourth-Grade Elementary School Students in South Korea. J Sch Nurs [Internet]. 2016;32(6):397–406. Available from: <http://journals.sagepub.com/doi/10.1177/1059840516650261>
- (5) World Health Organization (WHO). Strategy for Oral Health in South-East Asia, 2013–2020. 2013;15(3).
- (6) Badan Penelitian dan Pengembangan Kesehatan. Riset Kesehatan Dasar (RISKESDAS) 2013. Lap Nas 2013. 2013;1–384.
- (7) Pender NJ. Health Promotion Model Manual. 2011;1–17. Available from: <http://deepblue.lib.umich.edu/bitstream/handle/2027.42/85350/?sequence=1>
- (8) Varenne B, Petersen PE, Ouattara S. Oral health behavior of children and adults in urban and rural areas of Burkina Faso, Africa. Int Dent J. 2006;56(2):61–70.
- (9) Chandrashekar BR, Suma S, Kiran K, Manjunath BC. The use of school teachers to promote oral hygiene in some secondary school students at Hyderabad, Andhra Pradesh, India : A short term prospective pilot study. 2012;(September).
- (10) Bozorgmehr E, Hajizamani A, Mohammadi TM. Oral Health Behavior of Parents as a Predictor of Oral Health Status of Their Children. 2013;2013:1–6.
- (11) Romadlon DS, Bramantoro T, Luthfi M. The effect of peer support education on dental caries prevention behavior in school-age children at age 10-11 years old. Dent J (Majalah Kedokt Gigi). 2016;217(56):217–22.
- (12) Morowatisharifabad M ali, Shirazi KK. Determinants of Oral Health Behaviors Among Preuniversity. 2007;30(4):342–50.
- (13) Ji Y, Zhang Y, Wang Y, Association CC. Association between family factors and children ' s oral health behaviors – a cross-sectional comparative study of permanent resident and migrant children in large cities in China. 2016;(August 2015):92–100.

- (14) Bombert F, Manso AC, Ferreira CS, Nogueira P, Nunes C. Sociodemographic factors associated with oral health in 12-year-old adolescents : hygiene behaviors and health appointments. A cross-sectional national study in Portugal. 2018;1–9.
- (15) Deinzer R, Cordes O, Weber J, Hassebrauck L, Weik U, Krämer N, et al. Toothbrushing behavior in children – an observational study of toothbrushing performance in 12-year-olds. 2019;1–9.
- (16) Trang T, Bao B, Nguyen T, Son M. Effect of School Oral Health Promotion Programme on dental health and health behavior in Vietnamese schoolchildren. *Pediatr Dent J* [Internet]. 2016;1–7. Available from: <http://dx.doi.org/10.1016/j.pdj.2016.09.001>
- (17) Riolina A. The Role of Teachers in Improving Health Dental and Mouth Students in Basic School. *J Ilmu Kedokt Gigi*. 2017;1(2):51–4.
- (18) Sharma U, Gill N, Gulati A, Arora R, Bal IS, Agnihotri A, et al. Oral health behavior: Prevalence and pattern of dental caries in 11–16-year-old children of various socioeconomic strata. *J Pierre Fauchard Acad (India Sect* [Internet]. 2016;30(2):36–41. Available from: <https://www.sciencedirect.com/science/article/pii/S0970219916300364>
- (19) Arianto. The Role Of Parents, Friends, Teachers' s, Health Worker Influencing Teeth Brushing Behavior On The Elementary School St. *J Anal Kesehatan*. 2013;2(2):270–5.
- (20) Charkazi A, Davaji RBO-, Bagheri D. Predicting Oral Health Behavior using the Health Promotion Model among School Students : a Cross-sectional Survey. *J Anal Kesehatan*. 2019;4(29):2069–77.