

ACEH INTERNATIONAL CONFERENCE ON HEALTH

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ABSTRACT

Oral health in Indonesia remains a serious challenge and is on the rise. One of the main causes is low public awareness of the importance of maintaining good dental health, particularly proper tooth brushing, and a lack of interest in seeking dental care from medical professionals. Oral health issues represent a major challenge to public health overall, global, especially on group child age school. The World Health Organization notes that dental caries is one of the most common chronic diseases in the world, affecting 60-90 % of school-age children. Dental health and mouth own connection close with health general, in where problem tooth Untreated can affect the quality of life of children, including the ability to eat, sleep, and learn. The purpose of the study To determine the relationship between dental and oral health maintenance behavior and quality of life related to dental health in elementary school students in Banda Aceh City. The research method is an observational analytical study with a *cross-sectional study approach*. The time of the study was conducted in August 2025. A sample of 9 elementary schools with 400 respondents, the research location of elementary schools in the Banda Aceh City area, cluster sampling technique. The results of the Chi-Square test analysis in this study showed a sample of 400 respondents, the *Pearson Chi-Square value* increased to 4.166 with a *p-value* = 0.041 ($p < 0.05$), so it can be concluded that there is a significant relationship between parental behavior and children's quality of life. It is hoped that parents can improve their behavior regarding children's dental and oral health so that they can improve the quality of life of children.

Keywords: *Parental behavior, dental and oral health maintenance, quality of life of elementary school children*

INTRODUCTION

Based on *the World Health Organization* (WHO) caries tooth is one of the most common oral diseases, epidemiological studies over the last 20 years have shown prevalence caries that tall on children And young adults. Caries toothache is an infectious disease caused by by many factor among others are pattern Eat And *oral hygiene*. Caries tooth can influence development children and disturbing activity child. Existence pain, infection, or dysfunction of the stomatognathic system can limit the absorption of nutritious food and thus affect growth child, process learning, communication skills, and disrupting children's activities (Suci Mentari, 2016).

Dental and oral health problems are a major challenge in public health in general, global, especially on group child age school (Stein et al., 2018). The World Health

Organization notes that dental caries is one of the most common chronic diseases in the world, affecting 60-90% of school-aged children. Dental health and mouth own connection close with health general, in where problem tooth Untreated conditions can affect a child's quality of life, including their ability to eat, sleep, and learn (Ghasemi et al., 2024).

Oral health in Indonesia remains a serious challenge and is on the rise. One of the main causes is low public awareness of the importance of maintaining good dental health, particularly proper tooth brushing, and a lack of interest in seeking dental care from medical professionals (Sofiani et al., 2024). Data from the 2013 and 2018 Basic Health Research (Riskesdas) show that that the majority of society Indonesia (76.6%) only brush their teeth when showering in the morning and evening, while the correct way to brush their teeth is after eating. Morning And before Sleep Evening, only done by 2.3% resident. Index The national DMF-T was recorded at 4.6, with 15 provinces having a prevalence higher than the national average (SKI, 2023).

Based on 2018 Riskesdas data, 57.6% of the Indonesian population experiences dental and oral problems, with the highest prevalence among school-age children. often don't have hygiene habits tooth Good nutrition, coupled with the consumption of high-sugar foods, increases the risk of tooth decay. Furthermore, limited access to dental health services in some areas exacerbates this situation. (Riskesdas, 2018)

The 2023 Indonesian Health Survey shows that nationally, around 56.9% resident Indonesia aged ≥ 3 year experience problem health tooth And However, only about 11.2% of them received treatment from health workers. teeth. Although happen improvement tooth brushing behavior twice a day With the right timing, from 2.8% (2018 Basic Health Research) to 6.2%, this figure is still relatively low. (SKI, 2023) According to data from the Aceh Provincial Health Service, the prevalence dental caries 55.4% is still high, where there is an increase in health service efforts tooth And mouth in province Aceh. However, challenge Still There is, like high numbers caries tooth And low awareness public to importance maintenance teeth regularly (Aceh Provincial Health Office, 2022). In City Banda Aceh, various initiative has done For increase community dental and oral health. Banda Raya Community Health Center, for example, regularly holds education health tooth And mouth for students school base, like Which done in SDN 67 Pilot. However prevalence caries 33.3% of students have dental caries status was very high, high (20.5%), moderate (21.8%), low (16.7%), and very low (7.7%). Most students with high caries also experienced a decline in the quality of their teeth. live, like complaint oral cavity and limitations functional (Ratna Keumala et al., 2024). The prevalence of dental caries is still high among elementary school students in Banda Aceh. show that problem health teeth and mouth is issue health community that has not been optimally addressed. This condition can negatively impact children's quality of life, including impaired oral function, decreased concentration in learning, and psychosocial aspects such as self-confidence. Low levels of knowledge and behavior regarding dental hygiene, limited access to health services tooth, as well as lack of program promotional And preventive in environment school This also exacerbates this problem. Therefore, structured intervention efforts are needed. And based proof For lower number incident caries tooth on child elementary school age in Banda Aceh City (Ratna Keumala et al., 2024). Although dental and oral diseases do not directly cause death, these conditions can affect children through sleep disturbances, difficulty concentrating in Study, And decline presence in school consequence problem tooth (Hall & Christian, 2017) As a result, children's productivity, academic achievement, and quality of life are disrupted. Tooth decay in children is estimated to result in the loss of more than 50 million O'clock presence school every the year. By Because That, prevention since very early important

And can done with increase knowledge, understanding, and the behavior of parents and teachers in maintaining children's dental health (Farooqi et al., 2022). Children who have good oral health usually enjoy a higher quality of life compared to children who experience oral health problems. (Sharna et al., 2019) . The concept of quality of life related to dental health is now considered an important indicator in assessing oral health conditions in both children and adults. This concept reflects an individual's subjective assessment of their oral condition, encompassing aspects of well-being, functional limitations, expectations, and satisfaction with the care received. Through measuring quality of life, information can be obtained regarding oral symptoms, functional limitations, emotional aspects, and social well-being related to a child's health and care needs. (Shin, et al., 2015) .

METHODS

Method used in this study is an observational analytical study with a *cross-sectional study approach* . The study was conducted in August 2025. The sample consisted of 9 elementary schools in Banda Aceh City with 400 respondents, using a cluster sampling technique. This study was conducted at 9 elementary schools in Banda Aceh City. namely SDN 1 Kuta Raja District, SDN 3 Baiturrahman District, SDN 13 Meuraxa District, SDN 14 Ulee Kareng District, SDN 24 Kuta Alam District, SDN 39, SDN 54 Syiah Kuala District, SDN 62 Lueng Bata District, SDN 67 Bandar Raya District. Data collection was carried out using a questionnaire with interviews Data analysis using the chi-square test ≤ 0.05 , and obtained approval from the Ethical Commission of the Faculty of Dentistry, Syiah Kuala University, Banda Aceh with the Ethical Expedited number: 46 / KE / FKG / 2025 dated July 8, 2025.

RESULTS AND DISCUSSION

The characteristics of the respondents observed in this study included age and gender of the child, while the parents' education and occupation were assessed for a total of 400 respondents. The complete distribution of respondent characteristics can be seen in the following table:

Frequency Distribution of Respondents Based on Age and Gender of Elementary School Children in Banda Aceh City

Characteristics	Category	Amount	%
Age	6 - 9 Years	219	54.75
	10 - 12 Years	181	45.25
Total		400	100
Gender	Man	165	41.25

	Woman	235	58.75
Total		400	100

Table 5.1 shows that of the 400 respondents, the largest age distribution was in the 6-9 year age category (54.75%). Gender characteristics showed girls (58.75%).

The Relationship Between Parental Behavior in Maintaining Dental and Oral Health and the Quality of Life of Elementary School Children

		Children's Quality of Life		Total
		Yes	No	
Parental Behavior	Good	42	49	91
	Not good	180	129	309
Total		222	178	400

Based on the table above, it shows that the number of parents with poor behavior is 309 (77.25%) and the quality of life of elementary school children in the Yes category is 222 (55.5%).

DISCUSSION

The results of the Chi-Square test analysis in this study showed that a sample of 400 respondents, the *Pearson Chi-Square value* increased to 4.166 with a *p-value* = 0.041 ($p < 0.05$), so it can be concluded that there is a significant relationship between parental behavior and children's quality of life.

Parental behavior is an important determinant in children's dental and oral health. Parents who exhibit good behavior, such as guiding their children in maintaining dental hygiene, limiting their consumption of sweet foods, and taking their children regularly to dental services, can improve their quality of life, both in terms of functionality, comfort, and psychosocial aspects (Adulyanon & Sheiham, 1997; Petersen, 2016). Conversely, poor parental behavior can increase the risk of caries, impaired chewing function, pain, and even reduce a child's self-confidence.

This finding aligns with research by Finlayson et al. (2007), which states that parental behavioral and psychosocial factors play a crucial role in preventing and exacerbating children's dental health problems. Furthermore, previous studies have emphasized that parents are primary *role models* for children in health behaviors, including dental and oral hygiene (Petersen, 2016).

Thus, the results of this study reinforce the importance of family-based dental health interventions. Dental health promotion programs in elementary schools should actively involve parents, as changes in children's dental hygiene behavior are inextricably

linked to parental support and role models at home. Behavior health tooth in school very influential to health tooth and the child's mouth. School is place in where children spend their time most of the time they, so that important For create environment Which support healthy behavior. According to research by Al-Maweri *et al.* (2018), children who receive education health tooth in school tend to have better behavior in maintaining their dental health, such as brushing their teeth regularly and avoiding sweet foods (Janssen et al., 2024).

Wrong One factor which influence behavior health tooth is knowledge. Knowledge Which adequate about importance dental health can push children For more active in guard cleanliness their mouths. A studies in Indonesia shows that children Which follow education programs health tooth at school show improvement knowledge And behavior health tooth significant (Sari *et al.* ., 2020). This show that education health tooth effective can change behavior child become more positive (Fernández-Bonet et al., 2023). However, challenges in improving dental health behaviors in schools remain. Many children lack access to adequate dental care, and some don't even have a toothbrush at home. According to data from the Indonesian Ministry of Health, approximately 30% of children in Indonesia lack access to adequate dental care (Kemenkes, 2020).

In addition, the school environment also plays a significant role in shaping children's dental health behaviors. Schools that implement good dental health policies, such as provide time to brush your teeth after eat, tend to have children with behavior health tooth Which more Good (People *et al.* ., 2021). By therefore, collaboration Collaboration between educators, healthcare professionals, and parents is essential to creating an environment that supports healthy behaviors. In this context, collaborative oral health care applications can provide an effective solution to improve dental health behaviors in schools. By involving various parties, including healthcare professionals, educators, and parents, dental health programs can be developed in a comprehensive and sustainable manner. This is expected to foster a positive dental health culture among children, thereby maintaining healthy dental behaviors throughout their lives.

CONCLUSION

Based on the research results and discussion above, it can be concluded that there is a significant relationship between parental behavior in maintaining dental and oral health and the quality of life of elementary school children in Banda Aceh City $p \text{ value} = 0.041$ ($p < 0.05$).

It is hoped that parents will improve their behavior regarding their children's dental and oral health so that they can improve their children's quality of life.

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REFERENCES

- Abuhaloob, L., & Petersen, P. E. (2023). Health-Promoting Schools Project for Palestine Children's Oral Health. *International Dental Journal* , 73 (5), 746–753. <https://doi.org/10.1016/j.identj.2023.03.01>
- Almutairi, B., Adam, TR, & Bustami, R. (2024). Caries prevalence among children at public and private primary schools in Riyadh: a retrospective study. *BMC Oral Health* , 24 (1). <https://doi.org/10.1186/s12903-024-04570-6>
- Aqeeli, A., Alsharif, A.T., Kruger, E., Tennant, M., & Bakeer, H. (2021). Caries prevalence and severity in association with sociodemographic characteristics of 9- to 12-year-old school children in Al-Madinah, Saudi Arabia. *Saudi Dental Journal* , 33 (8), 897–903. <https://doi.org/10.1016/j.sdentj.2021.09.008>
- Aqeeli, A., Alsharif, A. T., Tennant, M., & Kruger, E. (2023). School Dental Services Theoretical Model-Based on Geographic Information System in Al-Madinah, Saudi Arabia. *Children* , 10 (2). <https://doi.org/10.3390/children10020186>
- Balasubramanian, M., Hasan, A., Ganbavale, S., Alolayah, A., & Gallagher, J. (2021). Planning the future oral health workforce: a rapid review of supply, demand and need models, data sources and skills mix considerations. In *International Journal of Environmental Research and Public Health* (Vol. 18, Issue 6, pp. 1–33). MDPI AG. <https://doi.org/10.3390/ijerph18062891>
- Brondani, M.A., & MacEntee, M.I. (2014). Thirty years of portraying oral health through models: What have we accomplished in oral health-related quality of life research? In *Quality of Life Research* (Vol. 23, Issue 4, pp. 1087–1096). Kluwer Academic Publishers. <https://doi.org/10.1007/s11136-013-0541-3>
- Dahlan, R., Bohlouli, B., Saltaji, H., Kornerup, I., Salami, B., & Amin, M. (2022). Immigrant Parents' Perceived Social Support and Their Children's Oral Health Behaviors and Caries Experience. *International Journal of Environmental Research and Public Health* , 19 (14). <https://doi.org/10.3390/ijerph19148250>
- Health Office Prov Aceh. (2022). *Health Profile Aceh 2022* . www.dinkes.acehprov.go.id
- Diva FI, Herwanda, & Cut Vera Novita. (2017). Elementary School Students with and Without UKGS (Study at SDN 16 and SDN 49 Banda Aceh) (USK, Trans.). In *Caninus Denstistry* (Vol. 2, Issue 3).
- Erik Petersen Copenhagen, P., Niels Hoerup Aarhus, D., Nattaporn Poomviset, D., Prommajan, J., Watanapa Hatyai, A., & POUI Erik Petersen, P. (nd). *Oral health*

status and oral health behavior of urban and rural schoolchildren in Southern Thailand .

- Farooqi, F.A., Khabeer, A., Moheet, I.A., Khan, S.Q., Farooq, I., & Arrejaie, A.S. (2015). Prevalence of dental caries in primary and permanent teeth and its relationship with tooth brushing habits among schoolchildren in Eastern Saudi Arabia. *Saudi Medical Journal* , 36 (6), 737–742. <https://doi.org/10.15537/smj.2015.6.10888>
- Fernández-Bonet, J., Marichalar-Mendia, X., & Lertxundi-Manterola, A. (2023). Childhood dental caries experience in northern Spain: a cross-sectional study. *European Archives of Pediatric Dentistry* , 24 (1), 95–103. <https://doi.org/10.1007/s40368-022-00762-2>
- Fukuya, Y., Matsuyama, Y., Isumi, A., Doi, S., Ochi, M., & Fujiwara, T. (2020). Toothbrushing and school refusal in elementary school: A longitudinal study. *International Journal of Environmental Research and Public Health* , 17 (20), 1–15. <https://doi.org/10.3390/ijerph17207505>
- Gargano, L., Mason, M. K., & Northridge, M. E. (2019). Advancing Oral Health Equity Through School-Based Oral Health Programs: An Ecological Model and Review. In *Frontiers in Public Health* (Vol. 7). Frontiers Media SA <https://doi.org/10.3389/fpubh.2019.00359>
- Ghasemi, H., Alautry, H. F., Khoshnevisan, M. H., & Namdari, M. (2024). Effectiveness of a School-Based Oral Health Promotion Program on Dental Caries Among Iraqi School Children: A Cluster Randomized Controlled Trial. *International Dental Journal* . <https://doi.org/10.1016/j.identj.2024.07.1214>
- Godes, C., Westhoff, L., Barry Godín, T., & Ruff, R.R. (2025). Integrating silver diamine fluoride into school-based oral health programs: A pilot study. *Public Health in Practice* , 9 . <https://doi.org/10.1016/j.puhip.2025.100609>
- Herijulianti et al, 2021. Book Education Health Tooth, Jakarta: EGC;.
- Hall, M., & Christian, B. (2017). A health-promoting community dental service in Melbourne, Victoria, Australia: Protocol for the North Richmond model of oral health care. *Australian Journal of Primary Health* , 23 (5), 407–414. <https://doi.org/10.1071/PY17007>
- Hannan, C.J., Ricks, T.L., Espinoza, L., & Weintraub, J.A. (2021). Addressing Oral Health Inequities, Access to Care, Knowledge, and Behaviors.

Preventing Chronic Diseases , 18 , 1–5.
<https://doi.org/10.5888/pcd18.210060>

Janssen, J., Pödl, A., Islam, M. M., Németh, Oh, Grytten, J., Woods, N., & Listl, S. (2024). How to ensure an appropriate oral health workforce? Modeling future scenarios for the Netherlands. *Human Resources for Health* , 22 (1), 73.
<https://doi.org/10.1186/s12960-024-00957-2>

Ministry of Health of the Republic of Indonesia (2012). Guidelines for School Dental Health Efforts (UKGS) (MINISTRY OF HEALTH Republic of Indonesia, Trans.). In M. Dr. Bambang Sardjono (Ed.), UKGS (Health) Guidelines. Ministry of Health.

Ministry of Health, Republic of Indonesia., 2020. Prevalence of Dental Caries in School-Age Children in Indonesia , Jakarta: Ministry of Health of the Republic of Indonesia

Decree of the Minister of Health, 2006. Standards for Dental and Oral Health Care Services , Jakarta: Ministry of Health of the Republic of Indonesia.

Ketut Harapan, I., Dompas, R., Bidjuni, M., Health Tooth, J., Ministry of Health Manado, P., & Utara, S. (2023). Innovation in Independent School Dental Health Services (UKGS-M) Through Cadre Training with an Innovative Video Application on How to Brush Elementary School Children's Teeth. *AMJPM* , 3 (1), 23. <http://journal.ahmareduc.or.id/index.php/>

Lally, C., Maliq, N.N., Schreiber, M., Wilson, A., & Tiwari, T. (2023). Association of parental social support and dental caries in Hispanic children. *Frontiers in Oral Health* , 4 . <https://doi.org/10.3389/froh.2023.1261111>

Marpaung, C., & Jason, A. (2023). Use of the Oral Health Impact Profile (OHIP) Questionnaire On Study About Disturbance Temporomandibular (Review Library). *Journal of Integrated Dentistry* , 5 (1).
<https://doi.org/10.25105/jkgt.v5i1.16825>

Nagdev, P., Iyer, M.R., Naik, S., Khanagar, S.B., Awawdeh, M., Al Kheraif, A.A., Anil, S., Alsarani, M.M., Vellappally, S., & Alsadon, O. (2023). Andersen health care utilization model: A survey on factors affecting the utilization of dental health services among school children. *PLoS ONE* , 18 (June 6).
<https://doi.org/10.1371/journal.pone.0286945>

Minister of Health Regulation, 2016. Permission Implementation Work Therapist Tooth And Mouth, Jakarta: Ministry of Health of the Republic of Indonesia, Number 20 of 2016.

- Minister of Health Regulation, 2016. Guidelines Implementation Program Indonesia Healthy with Family Approach, Jakarta: Ministry of Health of the Republic of Indonesia, number 39 of 2016.
- Minister of Health Regulation, 2022. Plan Strategic Ministry Health Republic Indonesia, Jakarta: Ministry of Health of the Republic of Indonesia, Number 13 of 2022.
- Riskesdas, 2018. *Basic Health Research of the Republic of Indonesia*, Jakarta: Ministry of Health of the Republic of Indonesia.
- Ratna Umi Nurlila, Jumarddin La Fua, & Meliana. (2016). The Influence of Health Education on Knowledge of Dental Health in Students at SD Kartika XX-10, Kendari City. *Al-Ta'dib Journal* , 9 (1), 94–119.
- Ratna Keumala, C., Kurniawati, N., & Imran, H. (2024). Connection Caries Tooth With the Quality of Life of Elementary School Students at Sd Negeri 54 Banda Aceh City The Relationship between Dental Caries and the Quality of Life of Elementary School Students at SD Negeri 54 Banda Aceh City. In *Journal of Healthcare Technology and Medicine* (Vol. 10, Issue 2).
- Rahmawati, I., Hendrartini, J., Priyanto, A., Banjarbaru Health, P., South, K., Dentistry, F., & Yogyakarta Province, B. (2011). Dental and Oral Health Behavior among Elementary School Children School Students. In *Community Medicine News* (Vol. 27, Issue 4).
- Reissmann, D.R., Sierwald, I., Heydecke, G., & John, M.T. (2013). Interpreting one oral health impact profile point. *Health and Quality of Life Outcomes* , 11 (1). <https://doi.org/10.1186/1477-7525-11-12>
- Robinson, P. G., Douglas, G. V. A., Gibson, B. J., Godson, J., Vinall-Collier, K., Pavitt, S., & Hulme, C. (2019). Remuneration of primary dental care in England: A qualitative framework analysis of perspectives of a new service delivery model incorporating incentives for improved access, quality and health outcomes. *BMJ Open* , 9 (10). <https://doi.org/10.1136/bmjopen-2019-031886>
- Santoso, B., Zulfahmi Taftazani, R., Rismayani, L., Wiyatini, T., & Department of Dental Nursing, Poltekkes, Ministry of Health, Semarang, D. (2021). Program Analysis Activity Business Health Tooth School (Ukgs) At the Halmahera Community Health Center (Bedjo Santoso, Rieza Zulfahmi T, & Lina Rismayani, Trans.). *Dental Health Journal* , 02 (1), 25–31.

- SKI, 2023. Survey Health Indonesia, Jakarta: Ministry of Health Republic of Indonesia.
- Shmueli, A., Assad-Halloun, A., Fux-Noy, A., Halperson, E., Shmueli, E., Ram, D., & Moskovitz, M. (2023). Promoting oral and dental health in early childhood - knowledge, views and current practices among pediatricians in Israel. *Frontiers in Pediatrics* , 10 .
<https://doi.org/10.3389/fped.2022.956365>
- Sofiani, E., Arinawati, DY, Putri, SS, & Martadewi, FA (2024). Caries Incidence Rates Examination Through the Indonesian Digital Caries Risk Assessment for Parents of Muhammadiyah Warungboto Elementary School Yogyakarta. *E3S Web of Conferences* , 570 .
<https://doi.org/10.1051/e3sconf/202457003009>
- Suci Mentari, ZUBCFN (2016). The Relationship between Parental Roles and the DMF-T Index Student School Base With UKGS (Studies On SDN 20 Subdistrict Kuta Alam City Banda Aceh) (USK, Trans.). *Journal Canine Dentistry* , 1 (4), 63