



Implementation of the parents' role to prevent caries and improve dental hygiene in Galuh Handayani inclusion elementary school students, Surabaya

I G A Kusuma Astuti*, Ida Chairanna Mahirawatie

Department of Dental Health, Poltekkes Kemenkes Surabaya, Indonesia

Abstract

Background: Dental caries is a chronic disease that often occurs in children. Caries is the primary pathological cause of tooth loss in children. The prevalence of cavities in early childhood is very high, namely 93%, meaning that only 7% of Indonesian children are free from dental caries. The role of parents is very important in improving the status of children's dental and oral hygiene and is one of the efforts in maintaining children's dental and oral hygiene. Children with special needs require continuous special attention because they have limitations in carrying out procedures for cleaning their oral cavity and require the help of other people.

Materials and Methods: The research is a cross-sectional observational analytical research. The sample in this research was all parents of Galuh Handayani Inclusive Elementary School students, Surabaya. The sampling technique in this research was total sampling, the number of samples obtained in this research was 35 samples.

Results: According to the statistical analysis, it shows that there is a significant difference between pre-test and post-test. The mean value of the post-test is higher than the pre-test. This means that the intervention that was given can increase the role of parents in maintaining the oral health of their children.

Conclusion: Based on this research, it can be concluded that providing treatment in the form of lectures can increase the knowledge, practice, and role of parents as caregivers, educators, encouragers, and supervisors.

Keywords: Caries, dental hygiene, children with special needs, parents' role, tooth brushing

Introduction

Dental caries is a chronic disease that often occurs in children. Caries is the primary pathological cause of tooth loss in children (Sinaga *et al.*, 2020) [9]. Results of Basic Health Research (Ministry of Health of the Republic of Indonesia, 2018) Ministry of Health of the Republic of Indonesia (2018), states that the largest proportion of dental problems in Indonesia are damaged/caved/sick teeth (45.3%). The prevalence of cavities in early childhood is very high, namely 93%, meaning that only 7% of Indonesian children are free from dental caries. According to research by Octiara *et al.*, 2018, the level of dental health in children with special needs is still low, with a caries prevalence of 92.71%, the caries experience of primary teeth is 2.28+3.25 while the experience of permanent tooth caries is 3.02+2, 98.

Factors that can cause dental caries in children include factors in the mouth that are directly related to the process of dental caries, including tooth structure, tooth morphology, arrangement of teeth, degree of acidity of saliva, oral hygiene which is related to the amount and frequency of eating. foods that cause caries (cariogenic foods) (Adinimas *et al.*, 2021) [1].

The high prevalence of dental caries in children can, among other things, be caused by bad habits of children and their parents or people who care for them. The problem of cavities that children are prone to can also be caused by a lack of knowledge about the importance of maintaining oral hygiene (Adinimas *et al.*, 2021) [1].

Dental caries is an infectious disease that can be prevented. This caries starts from the presence of food residue stuck to the teeth. If it is not cleaned immediately, it will cause erosion of the teeth until a hole is formed that is visible to

the naked eye. Dental caries experienced by children can affect the chewing system and digestive system, so that it can disrupt the child's health and growth and development. Apart from that, caries can cause unbearable pain in children so that children will be fussy and children may lose time studying and playing because of toothache (Suharti, 2021) [11].

Dental problems that usually arise in children with special needs include caries (cavities). Children with special needs require more special attention than other normal children because of the various limitations they have, including their lack of ability to clean their oral cavities themselves. Clean and healthy teeth and mouth conditions are very important to support the lives of these children. Therefore, parents should understand the principles of maintaining dental health in children with special needs. In the family, parents have a role to care for, guide and help direct children to become independent individuals. The family is also the first place where individuals interact with their social environment, thus determining how the individual's personality is formed. This statement is in line with what was stated by Hurlock (2002), namely that personality formation lies in the role of parents and other family members in providing care and interacting with their children (Rahmatika SN, 2020) [7].

The role of parents is very important in improving the status of children's dental and oral hygiene and is one of the efforts in maintaining children's dental and oral hygiene. Children with special needs require continuous special attention because they have limitations in carrying out procedures for cleaning their oral cavity and require the help of other people (Qomariyah, 2020) [2]. Poor dental and oral hygiene will cause dental and oral problems such as caries and other

diseases. Based on research conducted by Qomariyah *et al* in 2020 [2] at SDLB Negeri Wiradesa Pekalongan Regency. The research results can be seen for the level of knowledge: 25 parents (52.1%) have knowledge about maintaining dental hygiene with low criteria, 13 parents (27.1%) with medium criteria, and 10 parents (20.8%) with high criteria. For Wiradesa State Elementary School students' OHI-S scores: 20 students (41.7%) with poor OHI-S score criteria, 16 students (33.3%) with medium criteria and 12 students (25%) with good OHI-S criteria.

Gambaran umum Sekolah Inklusi Galuh Handayani adalah Sekolah swasta yang didirikan Yayasan Galuh Handayani. Terletak di Jalan Manyar Sambongan No.88-89, Kertajaya, Kecamatan Gubeng, Kota Surabaya, Jawa Timur 60282. Sekolah Inklusif Handayani Surabaya merupakan sekolah regular dengan program inklusif sejak tahun 1995, yang meliputi TK, SD, SMP, SMA dan College (D2). Memiliki assessment center dan program terapi untuk Anak Berkebutuhan Khusus (ABK). Tipe anak berkebutuhan khusus terdiri dari *Down syndrome, Retarded Mental, Autism, Cerebral Palsy, Slow Learners* dan *Low Hearing*. Berdasarkan latar belakang tersebut, tujuan dari penelitian ini adalah untuk meningkatkan peran orang tua dalam memelihara kebersihan gigi siswa di Sekolah Dasar Inklusi Galuh Handayani Surabaya.

Materials and Methods

This research is a cross-sectional observational analytical research. The sample in this research was all parents of Galuh Handayani Inclusive Elementary School students, Surabaya. The sampling technique in this research was total sampling, the number of samples obtained in this research was 35 samples. The inclusion criteria in this study were: 1) parents of Galuh Handayani inclusive elementary school students, Surabaya; 2) Willing to take part in research. Meanwhile, the exclusion criteria in this study were parents who did not have children with special needs.

This research began by giving a pre-test to the research sample, then providing intervention in the form of a lecturer with oral health promotion media and demonstration of tooth brushing practice using phantom media, and ended with giving a post-test. Data collection used a questionnaire. The data that had been obtained was then analyzed using statistical analysis software to determine the differences in pre-test and post-test results.

Result

Table 1: Distribution of Characteristic

Characteristics	Frequency (N)	Percentage (%)
Age		
<20	0	0%
20-35	14	40%
>35	21	60%
Education Level		
High School	9	25%
Bachelor	26	75%
Master	0	0%
Sex		
Male	6	17%
Female	29	83%

Table 2: Statistical analysis of comparison between pre-test and post-test

Variable	Mean	P-value
Pre-Test	65,97	0.000*
Post-Test	79,10	

*There is a significant difference

According to table 1, most of samples in this study are >35 years old age. They also have quite high education level, most of samples have bachelor degree and most of samples are female. The average value of the pre-test results for the role of parents of Inclusive Elementary School students.

The average value of the pre-test results was 65,97, included in the medium category. This means that most of the students' parents have carried out their roles as caregivers, educators, motivators and supervisors of their children regarding dental hygiene efforts but are not yet optimal. This is due to the educational level of most parents being graduates, so they can access information from various sources (internet, social media, etc.). Parents are not yet optimal in their role as caregivers, educators, motivators, and supervisors regarding their children's dental hygiene efforts, because some parents work.

The average score of the post-test results after being given training was in the good category. This means that students' parents are able to receive information or material about maintaining oral hygiene as well as material about the role of parents as caregivers, educators, encouragers and supervisors of their children which is given during the training.

According to the statistical analysis, it shows that there is a significant difference between pre-test and post-test. The mean value of the post-test is higher than the pre-test (Table 2). This means that the intervention that was given can increase the role of parents in maintaining the oral health of their children.

Discussion

Parents especially the mother as a primary caregiver, can be a factor that determines oral health status of their children (Muzaffar *et al.*, 2022) [5] They should be well-educated about the prevention of oral disease and oral health maintenance (Pawar *et al.*, 2018) [6]. Parents should be more concern about children's oral hygiene, especially children with special needs. Special training is needed in order to teach some specific behavior to the children (e.g. brushing teeth effectively), it needs more attention from parents due to the lack of motor skills in children with special needs. So that parents can teach their children to brush their teeth, parents need to have good knowledge and behavior about oral health maintenance (Sosiawan *et al.*, 2022) [10]. Previous study shows that children with special needs tend to experience difficulty to maintain oral health, especially in brushing their teeth. They tend to have poor oral hygiene. They often suffer from oral disease, oral pain, lack of mastication, and speech function, the most important effect is it can affect the general health of children with special needs. In order to prevent these conditions, it needs support from parents to adapt, so they will have a good oral health maintenance (Hajiahmadi *et al.*, 2022) [3]. Previous study showed that there is an association between presence of decay and the behavior of oral health maintenance (Salama *et al.*, 2020) [8].

Conclusion

Based on this research, it can be concluded that providing treatment in the form of lectures can increase the knowledge, practice, and role of parents as caregivers, educators, encouragers and supervisors. Apart from that, health promotion programs such as toothbrush practice demonstrations can improve the teeth brushing skills. The interventions that have been carried out can be well received by parents, teachers and students at Galuh Handayani Inclusion Elementary School, Surabaya.

References

- Adinimas G, Mahirawatie IC, Edi IS. Peran Ibu Dalam Memelihara Kesehatan Gigi Dan Mulut Anak Di Raudhatul Athfal Perwanida Cangkalan Ngawi. *Ejurnal. Poltekkestasikmalaya*. *Ac.Id*,2021:2(2):254-263. <https://doi.org/10.37160/jikg.v2i2.708>
- Ayu Wahyu Qomariyah, Prasko, Hermien Nugraheni. Tingkat Pengetahuan Orang Tua tentang Pemeliharaan Kebersihan Gigi dan Mulut dengan Status Kebersihan Gigi dan Mulut Anak Berkebutuhan Khusus di SDLB Negeri Wiradesa Kabupaten Pekalongan, *Jurnal Kesehatan*,2020:7:1:79-82. <http://ejournal.poltekkes-smg.ac.id/ojs/index.php/jkg/index>
- Hajiahmadi M, Nilchian F, Tabrizi A, Gosha HM, Ahmadi M. Oral health knowledge, attitude, and performance of the parents of 3-12-year-old autistic children, *Dental Research Journal*, 2022.
- Kementerian Kesehatan RI. Info DATIN Kesehatan Gigi Nasional September 2019. *Pusdatin Kemenkes RI*, 2018, 1-6. <https://pusdatin.kemkes.go.id/download.php?file=download/pusdatin/infodatin/infodatin-gigi.pdf>
- Muzaffar S, Shakeel M, Ahad M. Original Research Knowledge, attitude, and practical behavior of parents regarding their child's oral health. *Journal of Advanced Medical and Dental Sciences Research*, 2022, 10(1). <https://doi.org/10.21276/jamdsrIndian>
- Pawar P, Kashyap N, Anand R. Knowledge, Attitude, and Practices of Mothers Related to their Oral Health Status of 6-12 Years Old Children in Bhilai City, Chhattisgarh, India. *European Scientific Journal*, *ESJ*,2018:14:248. <https://doi.org/10.19044/esj.2018.v14n21p248>
- Rahmatika SN, Apsari NC. Positive Parenting: Peran Orang Tua Dalam Membangun Kemandirian Anak Tunagrahita. *Prosiding Penelitian Dan Pengabdian Kepada Masyarakat*,2020:7(2):329. [Doi:10.24198/Jppm.V7i2.28380](https://doi.org/10.24198/Jppm.V7i2.28380)
- Salama A, Konsowa E, Alkalash S. Mothers' knowledge, attitude, and practice regarding their primary school children's oral hygiene. *Menoufia Medical Journal*,2020:33:11. https://doi.org/10.4103/mmj.mmj_300_19
- Sinaga TR, Damanik E, Ety CR, Sihaloho S. *eISSN*: 2655-8688,2020:152-159. <https://doi.org/10.35893/jhsp.v2i2.48>
- Sosiawan A, Wahjuningrum DA, Setyowati D, Suhartono M, Audrey NW, Mawantari TP, *et al*. The relationship between parents' oral hygiene knowledge and children with Down Syndrome's oral hygiene via OHI-S. *F1000Res*,2022:11:374. <https://doi.org/10.12688/f1000research.87848.1>
- Suharti I. Educational: *Jurnal Inovasi Pendidikan dan Pengajaran No.1 Vol 1*. Februari Tahun 2021 36. *Jurnal Inovasi Pendidikan Dan Pengajaran*,2021:1(1):36-44. <https://doi.org/10.51878/educational.v1i1.53>
- Widyarani L, Priliana WK, Kustanti C. Efektivitas Art Therapy terhadap Pengetahuan dan Praktik Pemeliharaan Kesehatan Gigi pada Anak Usia Prasekolah. *Jurnal Keperawatan Terpadu (Integrated Nursing Jurnal) Home*, 2020, 2(1).