PARENTAL KNOWLEDGE TOWARDS CHILDREN'S DENTAL AND ORAL HYGIENE IN SDLB 1 MARTAPURA

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Abstract

Dental and oral hygiene problem is the leading cause of daily activities disruption in children such as missing school, bad learning concentration, appetite and nutritional intake. Knowledge of dental and oral hygiene should be given at early age in family by the parents. The aim of our work was to determine relationship between parents' knowledge and dental hygiene of the children. We undertook this research with analytical survey. A cross-sectional design was carried out. The sampling method was total sampling namely parents of children with special needs and the children as much as 80 people. Chi-Square test was performed to analyze the data. The results show that the knowledge of parents about dental and oral hygiene is not good (85%), while the dental and oral hygiene in children with special needs is poor (85%). Based on the Chi-Square Test, it produces a p-value of sig (2-sided) = 0.002 in the test, so it can obtain a p-value (probability value) from the test ($p = 0.002 < = 0.05$) so that H_o is rejected. In conclusion, a relationship between parental knowledge and oral hygiene in children with special needs does exist.

Keywords: *knowledge; dental and oral hygiene; children with special needs; parents*

1. Introduction

Caries is the most common chronic dental problem yet it is actually preventable (Syreen, et al. 2018; Alhabdan, et al., 2018). Caries attacked 3.5 billion people in the world and it is started when the first teeth appear at children age. The report of World Health Organization reveals 60 – 90% of school children worldwide has experienced caries especially in Asian countries (World Health Organization, 2003). A study found that the caries prevalence and DMFT score of Indonesia are higher than other Southeast Asian countries (Zhang, et al. 2014; Jürgensen & Petersen, 2009; Urwannachotima & Hanvoravongchai, 2020; Lai, et al., 2018; Kubota, et al., 2017). It is proven that 61% of 12-year-old Indonesian children were affected by dental caries with the mean DMFT score in 1.58(Maharani, et al., 2019).

Children may experience psychiatric and mental health issues. Special needs children are those under the age of 18 who have either physical or cognitive disabilities including intellectual disability (ID), Down Syndrome (DS), autism spectrum disorder (ASD), and attention deficit hyperactivity disorder (ADHD). Nevertheless, they still have the same dental problems of normal children such as dental caries and poor oral hygiene (Yeung, et al., 2019; Mota-veloso et al., 2012; Vellappally et al., 2014). This condition can lead to dental aversion which associated with increase plaque levels and caries experience. Intellectual disabilities may also limit the self – care, resulting in poor dental hygiene (Sarvas, 2017). Children with special needs require more assistance because of their mental as well as physical challenges, even if they are over seven years old. Because some of them may learn slowly and being uncooperative, have difficulty to understand the behavior of dental hygiene such as brushing teeth (Ningrum, et al., 2021). It was mentioned that children with special need is prone having a high dental carries index and inadequate oral hygiene (Pini, et al., 2016).

The role of parents is essential in dental hygiene as they are the main caregivers to their children. The behavior of parents, particularly mothers can affect their children's health. Some of the behavior of the parents include tooth brushing habit, dietary, and food choices. A good behavior of the parents can affect the children in the effort of caries risk reduction(Bozorgmehr, et al., 2013). Family environment has something to do with the influence of good behavior about dental hygiene(Duijster, et al., 2015).

Therefore, the relationship of the parental knowledge regarding the dental hygiene of their children are very important to understand. Over

the past ten years, the information of the relationship of the parent on the dental hygiene of the children have been conducted. A significant relationship of parental behavior and preschool children in Kerman, South East of Iran was proven in (Bozorgmehr et al., 2013). However, this study doesn't evaluate the knowledge of the parent among the relationship to the children dental hygiene, though it was mentioned that knowledge and attitude of the parents affect children dental health behavior and status. A survey on parental oral knowledge and behavior has been conducted in relationship to the children oral health in (Priya, et al., 2018; Abdat & Ramayana, 2020; Rogéria, et al., 2013). The results indicate that the children poor oral health practice is reflected by the parent partial knowledge and behavior toward oral health. However, all aforementioned research suffer from a relationship to the children with special needs.

Therefore, our study conducted with 40 parents and their children in SDLB N (Sekolah Dasar Luar Biasa Negeri) 1 Martapura, Banjar Regency totaling 80 people. SDLB N 1 Martapura was established since 2018, located in Jl. Candra Kirana RT V/I, Martapura City is intended for children with special needs so that they can get basic services to help them getting access to education with different types of learning strategies and facilities.

Our objective was to evaluate the relationship of parental knowledge to the dental hygiene of the children with special needs. The study was performed by evaluating the knowledge of the parents by using questionnaire and the dental oral hygiene by examining OHI-S of the children. A further objective was exploring the parents' knowledge and the dental hygiene of the children with special needs.

2. Method

Study design and sampling procedure

Our study type was analytical survey. The cross-sectional approach was used to determine the relationship between parental knowledge and oral hygiene and the approach and the variables of research were obtained in the same time. The study was conducted from October 2019 to May 2020. The variable of research consists of independent variable, i.e. knowledge of parents and dependent variable i.e. dental and oral hygiene of the children.

The population was all 40 students with special needs and 40 parents at SDLB N 1 Martapura, Banjar Regency. Total sampling was carried out with the total population, namely all students with special needs and their parents at SDLB 1 Martapura, Banjar Regency with a total sample of 80 people.

Data collection

Primary data collection was carried out by conducting direct examinations of children with special needs at the SDLB N 1 Martapura, Banjar Regency using a diagnostic instrument set, OHI-S format and giving a dental and oral hygiene knowledge questionnaire to parents of children with special needs. The questionnaire question was 19 in total. Each of question consists of 3 answers. Score 1 is given to the correct answer and score 0 is given to the incorrect answer. There are two categories in knowledge, i.e. Good if the score is 10 – 19, and poor if the score is 0 – 9.

Secondary data was data obtained from the research site, SDLB N 1 Martapura, Banjar Regency, regarding the names of students and their parents, age, gender, type of disability and the number of students with special needs and the parents.

Data analysis

Data analysis was started by inputting the primary and secondary in frequency distribution table. After collecting the results of dental and oral hygiene examinations for children with special needs, then the results were statistically tested using the SPSS program with the Chi Square test to find out the existence of relationship in parental knowledge and oral hygiene (Mchugh, 2013). The category used for Debris Index and Calculus is based on in which good is scored 0 – 0.6; fair if scored 0.7 – 1.8; poor if 1.9 – 3.0 (Greene & Vermillion, 1964).

The conclusion of relationship was taken as follows: if the result of Chi Square test on p – value less than 0.05, meaning that there is a relationship between parental knowledge and dental and oral hygiene of the children with special need and vice versa, if p – value is more than 0.05, meaning that there is no relationship

between parental knowledge and dental and oral hygiene of the children with special needs.

3. Result and Discussion

Results on frequency distribution are divided into distribution based on the parents and children. The data of parents include the number of respondents and knowledge. Meanwhile the data of children includes the number of respondents, and dental and oral hygiene.

Table 1. Frequency distribution of parent respondents

Gender	Number of respondents	Percentage (%)
Male	12	30
Female	28	70
Total	40	100

Table 1 shows the number of parents of children with special needs in which 30% of the respondents are male parent (father) and 70% are female parent (mother).

Table 2. Frequency distribution of students in SDLB N 1 Martapura

Grade	Number	Percentage (%)
Grade I	12	30
Grade II	10	25
Grade III	5	12.5
Grade IV	4	10
Grade V	4	10
Grade VI	5	12.5
Total	40	100

Table 2 shows the frequency distribution of the students that the total number of students in SDLB N 1 Martapura is 40.

Table 3. Frequency distribution of parental knowledge

Category	Number of respondents	Percentage (%)
Good	6	15
Poor	34	85
Total	40	100

Table 3 states the number of parental knowledge with poor category is 34 people and good category is 6 people.

Table 4. Frequency distribution of dental and oral hygiene of the children

Category	Number of Respondents	Percentage (%)
Good	4	10
Fair	2	5
Poor	34	85
Total	40	100

Table 4 shows the highest dental and oral hygiene percentage is in category of poor with 34 children or 85% of the total respondents.

Table 5. Cross Tabulation of the Relationship between Parental Knowledge and Dental and Oral Hygiene in Children with Special Needs

Parental know-ledge	Dental and oral hygiene of the children						Total	
	Good		Fair		Poor		N	%
	N	%	N	%	N	%		
Good	1	2.5	2	5	3	7.5	6	15
Poor	3	7.5	0	0	31	77.5	34	85
Total	4	10	2	5	34	85	40	100

Table 5 shows from 40 parents there are 34 (85%) parents who have poor knowledge with children who have good dental and oral hygiene as many as 3 children (7.5%), and poor oral hygiene category as many as 31 children (77.5%). Meanwhile no children with fair category of dental and oral hygiene.

There are 6 parents (15%) who have good knowledge with children who have good dental and oral hygiene category as much as 1 child (2.5%), fair category as many as 2 children (5%) and the category of poor was 3 children (7.5%).

Table 6. Chi Square test results on parental knowledge and dental oral hygiene of the children

	Value	Df	Sig (2-sided)
Person Chi-Square	12.664[a]	2	0.002

Table 6 shows the p value in the sig (2-sided) = 0.002 column in the test, meaning that the p value (probability value) of the test is less than, so H_o is

rejected. In conclusion, there is a relationship between parental knowledge and dental and oral hygiene in children with special needs at SDLB N 1 Martapura.

In table 5, the number of parents who have poor knowledge of dental and oral hygiene is higher than those who have good poor knowledge. As shown in the research of (Mahat & Bowen, 2017), parents actually have awareness that teeth are important to maintain. However few understand the cavities appear in their children's teeth which cause cavities in permanent teeth. So, the bad dental and oral hygiene may be caused by baby teeth cavities that parents didn't realize.

One objective of Ministry of Health of Indonesia 2030 is that to reduce the proportion of dental caries experience of children at age 12(Ministry of Health of Indonesia, 2019). WHO recommends three prevention of childhood caries i.e. primary prevention which includes primary health care programs especially for maternal and child health that is conducted in early age such as no sugars for baby until 2 years. Secondary prevention is performed focusing on early detection of carious lesions. This is focusing on the dental personnel and even mothers to detect early signs of carious lesions. Tertiary prevention includes reduce cavity by avoiding unnecessary extraction and restoration function. In tertiary prevention may apply rehabilitation for children if there is problem of child's behavior and cooperation(World Health Organization (WHO), 2016). This show that actually the starting point of caries prevention is by making sure that mother or the parents are having knowledge of dental and oral hygiene to promote good dental and oral hygiene to their own children. Since parental knowledge has significant influence on children's dental caries (Isong, et al., 2012).

Children with special healthcare needs (CSHCN) require health and related services more than that of children in general (McPherson et al., 1998). The children with special needs can suffer from mental and physical disabilities that influence them in mobility hindrance which resulting in higher poor dental hygiene (Bayarsaikhan, et al., 2015). This is in line with our study according to table 5 that either the parent have good knowledge, the highest category in dental and oral hygiene is poor. However, this is in accordance to the parental knowledge, which is in line with our study result in table 6 that there is relationship between parental knowledge and the dental and oral hygiene status of the children with special needs. Therefore, it is recommended that assessment of parental knowledge is important to perform first before the appropriate education program for the target is held (Mahat & Bowen, 2017). The poor dental and oral hygiene of the children with special needs is also caused by poor routine dentist visit, perception that dental care is expensive (Hendaus et al., 2020), socioeconomic (Oberoi, et al., 2016), educational background (Al-batayneh, et al., 2019). The dental health personnel is needed to educate them, and it is recommended to initiate dental home process(Hendaus et al., 2020).

4. Conclusion and Suggestion

We have presented a research to evaluate the relationship of parental knowledge and dental and oral hygiene status of the children with special needs in SDLB N 1 Martapura, Banjar Regency. The results comes into conclusion that there is a relationship between parental knowledge and dental and oral hygiene status of the children. It is shown by the results that the poor knowledge of the parent does in line with the poor dental and oral hygiene status of the children. We suggest that further research should be undertaken in the areas of factors related to the parental knowledge, so that the educational program held by dental personnel or Public Health Service is right on the target.

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