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Research Article

deft Index Score of First Grade Elementary School Students in Accordance With Mothers Parenting Style on Tooth Brushing in Banjarbaru City

WIDODO¹, R.DARMAWAN SETIJANTO², HULDANI³, HARUN ACHMAD⁴, VICTORIA VALENTINOVNA KHARKE⁵, VITALY V. GONCHAROV⁶

¹Department of Dental Public Health, Faculty of Dentistry, Lambung Mangkurat University, Banjarmasin, South Kalimantan, Indonesia

²Department of Dental Public Health, Faculty of Dentistry, Airlangga University, Surabaya, Indonesia

³Department of Physiology, Faculty of Medicine, Lambung Mangkurat University, Banjarmasin, South Kalimantan, Indonesia

⁴Department of Pediatric Dentistry, Faculty of Dentistry, Hasanuddin University, Makassar, Indonesia

⁵Department of Pediatric Dentistry and Orthodontics, Sechenov First Moscow State Medical University, Moscow, Russia

⁶Department of State and International Law of the Kuban State Agrarian University named after I. T. Trubilin, Krasnodar, Russia

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ABSTRACT

Purpose: To analyze deft index score based on mothers parenting style on tooth brushing among first grade elementary school students in Banjarbaru. **Method:** This was an observational analytic cross sectional study with multi stages random sampling technique. A total of 262 first grade students from 9 elementary schools in Banjarbaru city were included as samples. **Result:** The average score of deft index among study samples was 9.52, No significant difference was found between male and female deft index score. Mothers parenting style on tooth brushing was varied with the highest percentage observed in poor (29.30%) category. There is a significant relationship between the value of parenting in brushing teeth with the def-t index value

Keywords: deft index, gender, mothers parenting style.

INTRODUCTION

Caries is a dental and oral health problem that most often affects children in Indonesia. The etiologies of caries among children are host (associated teeth), saliva, dietary, agent (microorganism) and behavior. Correct tooth brushing behaviour and continual utilization of fluoride containing toothpaste are strategies to enhance tooth resistance and to reduce bacterial growth and activity particularly *Streptococcus mutans* thus decreasing dental caries risk.¹ Correct tooth brushing behaviour, referred to FDI (Federation Dentaire Internationale), is a daily tooth brushing behaviour which is performed at least twice a day after breakfast and before bedtime. The proportion of Indonesian citizen which demonstrate correct tooth brushing behaviour is 2.8% in which South Kalimantan Province represents 5.0% generally.² Proportion of Banjarbaru population in correct tooth brushing behaviour is 2.06% (the lowest among other regions in South Kalimantan Province).³ Low proportion of correct tooth brushing

behaviour among children age 5-9 resulting in high caries prevalence which constitutes 92.6% population with deft score of 8.1 among child age 5 year.²

Oral and dental health maintenance for children under twelve are persistently dependent on mothers role due to close interaction between the mother and the children. Parents perception and belief in tooth brushing, ability to control childrens behaviour, and mothers capacity in monitoring and supervising tooth brushing behaviour will determine dental health of the children.⁴ Parenting style of the mother for correct tooth brushing behaviour in children is closely associated with mothers knowledge regarding dental health. Mother with less knowledge in dental health shows poor parenting style behaviour in the form of her ignorance in the dental health of the children. Such parenting style will lead to low behaviour of tooth brushing among child with low oral hygiene level and high dental caries prevalence in child.⁵

MATERIALS AND METHODS

Analytical observational study is aiming to elaborate correlation between deft index score among first year elementary students and parenting style of the mothers for tooth brushing in Banjarbaru city. Data collection was performed using cross sectional method among mothers and first year students from 9 elementary schools in Banjarbaru city. Sample was obtained through multi stage random sampling technique.⁶ Total sample comprised of 262 first year elementary school students and 262 mothers from associated students. The measurement of deft index includes decay (d) embodying the number of deciduous teeth with caries and yet performed with final restoration or teeth with permanent restoration with secondary caries, extraction or missing (e) representing the number of deciduous teeth which has been extracted or has been indicated to be extracted, and filling (f) constituting the number of deciduous teeth which has been restored with permanent restoration in good condition. Score of deft index is the summation of total decay (d), extraction or missing (e) and filling (f).⁷ Assessment for mother parenting style was using questionnaire in Likert scale comprising score of 5 if regularly performed, 4 if frequently performed, 3 if occasionally performed, 2 if rarely performed and 1 if not once performed. Components in the

questionnaire include directing children for tooth brushing after breakfast, directing children for tooth brushing before bedtime, assisting children while tooth brushing, supervising children when tooth brushing and assessing dental hygiene of children after tooth brushing. The score of mother parenting style in five categories are: very good, good, fair, poor, very poor.⁸ Data analysis was performed using Independent t-test and Pearson correlation coefficient.

RESULTS

This study was conducted from July to August 2019 among first year students in 5-7 years old age intervals and their mothers from 9 elementary schools in Banjarbaru city. Study result demonstrated that most deft score of the students (70.6%) are classified in very high category of WHO with average deft score of 9.52. Statistical analysis of deft index score between male and female subject was conducted using independent t-test resulting in a significant value of 0.078. Thus, it is acquired that no significant difference observed between the average score of deft index in male and female subject. Description of deft score among research subject based on gender is presented on table 1 below.

Table 1: Description of deft index score based on gender

Gender	Number of Sample	Average score of deft
Male	130	9.56
Female	132	9.47
Total	262	9.52

The highest score (84%) of deft index was observed in d (decay) component representing teeth with caries in smooth surface, pit and fissure, provisional restoration, caries of root surface and secondary caries. Distribution of deft

component score in this study is presented on table 2 below.

Table 2: Distribution of deft score

Component of deft Index	Percentage
d	84
e	14
f	2
deft	100

Assessment of mother parenting style in children tooth brushing habit was performed in 262 subject using questionnaire which is comprised of five question items. Occasionally performed

answer was mostly obtained on questionnaire items such as directing children for tooth brushing after breakfast and before bedtime and assessing children oral hygiene after tooth brushing. Rarely

performed answer were mostly obtained in question item of assisting and monitoring children when tooth brushing. The highest indicator value of parenting style is presented in directing children to brush their teeth after

breakfast (21%) and the lowest is in supervising children when tooth brushing (7.6%). Percentage of parenting style for tooth brushing in this study is presented in table 3 below.

Table 3: Percentage of parenting style in tooth-brushing assessment

No	Questions	Answers (%)				
		Regularly	Frequently	Occasionally	Rarely	Never
1	Directing children for tooth brushing after breakfast	21	24	28	17,6	9,4
2	Directing children for tooth brushing before bedtime	19	22	27	25	7
3	Assisting children while tooth brushing	9,6	11	32	34.4	13
4	Supervising children when tooth brushing	7,6	12	30	36	14,4
5	Assessing dental hygiene of children after tooth brushing	9,5	10	35	27,5	18

The score of mothers parenting style on tooth-brushing behaviour of children are varied in five categories where the highest percentage is noted

in poor category (29.30%). The distribution of mothers parenting style is presented in table 4.

Table 4: The distribution of mothers parenting style is presented

Category	Score	Total	%
Very poor	0-16	35	12,96
Poor	17-33	77	29,30
Fair	34-48	75	28,60
Good	49-54	41	15,8
Very good	55-80	35	13,34
Total		262	100

Analytical correlation study between deft index score and mother parenting style score on tooth brushing was performed using Pearson Correlation Coefficient with significant value of 0.001 thus affirming the association between mothers parenting style score and deft index score. Pearson Correlation Coefficient Analytical correlation study between deft index score and mother parenting style score on tooth brushing was performed using Pearson Correlation

Coefficient with significant value of 0.001 thus affirming the association between mothers parenting style score and deft index score. Pearson Correlation Coefficient resulted in significant value of 0.841 which reveals that there is a strong negative association between the score of mothers parenting style on tooth brushing and deft index score where lower score in mother parenting style will result in higher deft index score.

DISCUSSION

The average score of deft index illustrates no difference between male and female subjects due to oral and dental health dependence of children under twelve to their parents, particularly their

mother. Mother as the main regulator for childrens nutrition and tooth- brushing habit is significantly essential in determining dental health of the children. Fisher- Owens theory claims that there are numerous factors that affecting dental

health of the children. Childrens tooth brushing behaviour is influenced by parents knowledge, perception and belief on tooth brushing, control of children behaviour and parents behaviour. Obedience in tooth brushing instructions such as tooth brushing twice daily using fluoride containing toothpaste since early age is the key to successful dental caries prevention among children.⁴

The highest percentage of mother parenting style score on tooth brushing was found in poor category resulting in higher deft index score among children. Parents, especially mother, is the role model and decision maker for their children hence childrens dental health behaviour will be clearly dependent on mother involvement and support. A study by Nayyar et al (2018) presented that: there is a statistically significant correlation between parenting style and caries status among children and childrens behavior on first visit of dental treatment.⁹ Decay obtains the highest score in deft index because the majority of mother showed low level of knowledge in the etiology of caries. This results in unimplemented tooth brushing habit despite of knowing the importance of tooth brushing. A significant number of mothers did not encourage their children to visit the dentist regularly and considered deciduous teeth as an insignificant part in supporting health generally.^{10,11}

The result of this study revealed the variance of mothers parenting style in children tooth brushing behaviour thus deft index score of this study also varies based on the level of severity. This result is also in accordance with a qualitative study in England about how Parents perception shaped the belief of childrens oral health: affecting oral health behaviour in children. Two different groups were identified in society consisting of a group which prioritize and other which not prioritize oral and dental health. A group which prioritize oral and dental health opinionated that oral health is an integral component of health and childrens prosperity that should be achieved through particular habit, routine and behaviour. Other group which not prioritize the importance of oral and dental health perceived that oral health demonstrates no interdependence with overall health of the children. The rise of contradiction between two groups was influenced by the level of knowledge upon dental health which formulate perception and belief about oral and dental health.^{12,13,14}

Based on this study, an effective strategy is required to reduce deft index score through the concept of a pedodontic care triangle that children dental health maintenance consists of the children (patient), their parents (mother

particularly), dentists and their social environment. Mothers parenting style behaviour which is originated from knowledge and behaviour will determine oral and dental health of the children.^{15,16}

CONCLUSION

There is a significant correlation between the score of mothers parenting style on childrens tooth brushing behaviour and deft index score where higher score of mothers parenting style will be resulting in lower score of deft index.

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