

Research Article

Correlation Of Mother's Behavior In Autistic Children With DMF-T Value And Dental Care Need

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Received: 15.04.20, Revised: 21.05.20, Accepted: 07.06.20

ABSTRACT

Background: The prevalence of autism is 6 per 1000 people, usually seen before a child is 3 years old. The main characteristics of autism are related to problems of social interaction with others, disturbances in communication, repetitive, behavioral repetition, and cognitive instability.

Purpose: To analyze the relationship between the mother's behavior with autistic children in terms of DMF-T values and dental care needs.

Methods: This study is observational analytic by using cross-sectional research design. Data collection was obtained from the filling out of the HU-DBI (Hiroshima University - Dental Behavioral Inventory) questionnaire.

Results: After analyzing the results of the study, it is known that the significance value (p) is > 0.05, so there is no correlation between mother's behavior and DMF-T / dmf-t value (DMF-T score) both in terms of knowledge, attitudes, Practice and correlations with dental care needs.

Conclusion: the results of research that has been done shows that there is no significant relationship between knowledge, attitudes, and practice in maintaining oral health with caries index and care needs in children with autism.

Keywords: DMF-T index, Mother Behavior, Autism

INTRODUCTION

Autism is a disorder of nerve development that causes children to seem unable to connect with others^[1], as if they live in their own world. Autism in male children is 3-4 times higher than female children. The prevalence of autism is 6 per 1000 people, usually seen before a child is 3 years old^[2]. The main characteristics of autism are related to problems of social interaction with others, disturbances in communication, repetitive, behavioral repetition^[3], and cognitive instability^[4]. There are no specific oral manifestations in autistic children have been described, although oral hygiene of autistic children is known to be lacking. However, many authors have found the prevalence of dental caries to be no different compared to non-autistic individuals, and in some cases the prevalence of caries in autistic children is even relatively low^[5].

Some factors that affect children's dental health are parents must pay attention to children's dental health^[6], introduce children to dentists, and teach children to always brush their teeth at night^[7-9]. Other factors that influence are the environment, education, income^[10]. This can be influenced by the family / parents of autistic children where

those who teach the skills and habits in the daily life of autistic children^[11]. For this reason, the oral and dental health of children with autism is very dependent in parents where parents act as the first person known by children who always educate, train and love the children^[12]. In this case, especially mothers, mothers as the closest people to children who always educate, teach, and train their children's skills in particular in terms of maintaining oral hygiene^[13]. A child who is usually not very critical about something will tend to take a position similar to the attitude of his mother because of the imitation process of the model that he considers important^[14]. Human behavior can be divided into three kinds of aspects, namely knowledge, attitudes^[15,16], and behavior^[17]. Mother's behavior regarding oral health can be used as an example by children so that it can be used to predict the status or condition of oral health of their children^[18]. The purpose of this study was to analyze the relationship between the mother's behavior with autistic children in terms of DMF-T values and dental care needs

MATERIAL AND METHOD

This study is observational analytic by using cross-sectional research design. The study was conducted at Extraordinary School of AGCA Center Surabaya. The population in this study were all children diagnosed with autism in the Extraordinary School, with total of 34 subjects along with parents of autistic children in accordance with the sample criteria. The sampling technique used is total sampling. Data collection was obtained from the filling out of the HU-DBI (Hiroshima University - Dental Behavioral Inventory) questionnaire regarding

behavior in maintaining oral and dental hygiene by mothers as parents of autistic children and dental health checks using the DMF-T / dmf-t Index.

RESULTS

This study was conducted on Extraordinary School of AGCA Center students in Surabaya with a total sample of 34 autistic children and their biological parents as respondents in September - October 2018.

Table 1: Distribution Characteristic of children with autism

Characteristic	Frequency	Percentage (%)
Age		
3-6 years	8	23,5
7-9 years	17	50
>10 years	9	26,5
Mother's education level		
Primary Education (Elementary/Middle/ High school)	7	20,6
College	27	79,4
Mother's Employment Status		
Not employed	16	47
Government Employee	3	8,8
Private Employee	11	32,4
Other	4	11,8
Mother's Income		
< Rp 1.000.000,-	1	2,9
Rp 1.000.000 - Rp 3.000.000	6	17,6
> Rp 3.000.000,-	17	50
Other	10	29,4
Classification of Caries Severity (DMF-T / dmf-t Index)		
Very Low = 0,0 - 1,1	22	64,8
Low = 1,2 - 2,6	4	11,8
Moderate = 2,7 - 4,4	4	11,8
High = 4,5 - 6,5	2	5,8
Very High = > 6,6	2	5,8
Dental care needs of children with autism		
1	12	35,2
2	2	5,9
3	0	0
Not Needed	20	58,9
Mother's behavior in maintaining oral health of their children		
Knowledge	34	100
High	0	0
Low		
Attitude	31	91,1
High	3	8,9
Low		
Practice	18	53
High	16	47
Low		

Table 2: Spearman's correlation between mother's behavior and DMF-T / dmf-t score

	Knowledge		Attitude		Practice	
	Sig (p)	r	Sig (p)	r	Sig (p)	r
SCORE DMF-T	0,4	-0,1	0,6	0,08	0,8	0,03
Dental Care Needs	0,2	-0,19	0,3	0,1	0,2	0,2

After analyzing the results of the study, it is known that the significance value (p) is > 0.05, so there is no correlation between mother's behavior and DMF-T / dmf-t value (DMF-T score) both in terms of knowledge, attitudes, Practice and correlations with dental care needs .

DISCUSSION

In this study, the percentage of autistic children that examined was male by 61.7% and female by 38.3%. This is in line with Nugraheni's 2012 study, which previously stated that the prevalence of autism ranges from 1-2 per 1000 population, with more male distribution than female (4: 1). This is related to differences in hormone production. In the male, produce higher testosterone hormone than female otherwise, female produce higher estrogen hormone than male. Both of these hormones have the opposite function of a brain regulating gene called retinoic acid related orphan receptor alpha or RORA. The hormone testosterone can inhibit the performance of RORA while estrogen increases the work of RORA. If the work of RORA is hampered there will be a problem of brain coordination, for example a gene should have the task of protecting nerve cells from stress and inflammation but if its performance is inhibited then the cell is unable to work properly^[19].

In the results of study on the caries index or caries severity of autistic children aged 3-14 years showed that 44% of respondents had dental caries and obtained an average of DMF-T of 1.5 which according to the classification of caries severity according to WHO showed a low severity level. From the results of the study, dental caries percentage with very low caries severity is 64.8%, at low caries severity is 11.8%, moderate caries severity is 11.8%, high caries severity is 5.8%, and very high severity at 5.8%. In the results of the study, all respondents have a high level of knowledge of 100%. This can be caused by the majority of respondents, as many as 79.41% have the college education, while respondents with the primary education (Elementary/Middle/High) are 20.58%. Education can affect a person's health status. The higher the level of one's education, the easier it is to receive information^[20]. Someone who has a higher education will have better knowledge in maintaining and caring for his teeth^[21].

In the results of the study, as many as 91.1% of respondents had good attitudes, while as many as 8.8% had poor attitudes. This is in line with research conducted by Oktarina in 2016 that there is a relationship between the level of parental attitudes about oral health with the Practice of maintaining dental health in children. Education will enhance information and influence the development of one's attitude towards newly introduced values^[20]. According to Notoatmodjo (2007), attitude is the readiness of an individual to act according to his feelings and thoughts based on values believed. So that attitudes can be learned, not carried from birth, not settled then they can change. And it can be said that attitude is the beginning of behavior that influences one's actions.

While the results of the research aspects of the action showed that as much as 91.1% of respondents had good behavior, while as many as 8.8% had bad behavior. The results of this study are the same as the results of research conducted by Ahmad et al (2009) also saying there is no significant relationship between the behavior and severity index of dental caries^[22]. The absence of relationship between behavior regarding maintenance of dental health and caries may have caused by the actions that have taken place but are still dependent on the claim or guidance.

However, after analyzing the data, this study showed that there was no significant relationship between mother's behavior with periodontal tissue and periodontal care needs in autistic children ($p > 0.05$) in terms of knowledge, attitudes, and actions. This is in line with Oktarina, Tumaji and Roosiermatie's research in 2016 that there is no significant relationship between Mother's behavior (knowledge, attitudes, and practice) with the oral health of children. This can be caused because knowledge, attitudes, and practice are not the only factors that influence a person's behavior. In the research of Oktarina, et al (2016), as Blum's Theory states that the oral or dental health status of a person or community is influenced by four important factors namely heredity, environment (physical and cultural), behavior, and health services. Mother's parenting also influences the mother's behavior in caring for and maintaining the child's dental health.

In this study 44.1% of parents of children with

autism use BPJS Insurance. In addition to income and employment, health insurance also has a significant impact on dental care. The use of dental insurance can reduce or even eliminate the cost of dental and oral care, causing a high demand for dental and oral health care^[23], dental scaling (1x a year), and so on (BPJS Health Guidebook, 2014). Ease of dental health care facilities provided, can encourage mothers to take their children to the dentist in terms of care for children's teeth. This shows uniformity or homogeneous data so that there is no big difference in the DMF-T index of autistic children, so that the majority of children with autism have a healthy tooth condition. In children with autism oral health can be affected because of a limited understanding of the importance of maintaining oral health, difficulties in communicating oral health needs, and anticonvulsant drugs that have an impact on gingival health and fear of oral health procedures, Autistic children tend to be hyperactive and have uncontrolled muscle movements. Children with autism also have low salivary secretions, this can also cause low oral hygiene of children with autism. This can be caused by maternal background factors, including employment, income (socio-economic), mother's education, and other factors. Most autistic children come from parents who have high socioeconomic status so that they are more likely to get health services in achieving a higher degree of dental health.

CONCLUSION

Based on the results of research that has been done shows that there is no significant relationship between knowledge, attitudes, and practice in maintaining oral health with caries index and care needs in children with autism.

Conflict of interest: None

Source of Funding: Self-Funding

Ethical Clearance

This study was approved by the Universitas Airlangga, Faculty of Dental Medicine Health Research Ethical Clearance Commission

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