

Social Learning Theory on Factors Associated with Dental Caries among Mentally Disabled School Children in Surakarta, Central Java

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ABSTRACT

Background: Mentally disabled adolescents have limitations that make them are at greater risk of dental caries. There is a lack of studies on the factors associated with dental caries in adolescents using Social Learning Theory. This study aimed to determine factors associated with dental caries among mentally disabled adolescents using Social Learning Theory.

Subjects and Method: This was an analytic observational study using cross-sectional design. The study was conducted at several special schools for disabled children (SLB) Surakarta, including: SLB C Setya Darma, SLB C YPSLB, SLB CG YPPCG Bina Sejahtera, and SLB C1 YSSD, in Surakarta, Central Java, from June to July 2017. A total sample of 150 mentally disabled school children were selected for this study by purposive sampling. The dependent variable was caries dental status. The independent variables were parenting time, maternal oral health knowledge, maternal attitude towards oral health, maternal oral hygiene practice, child oral hygiene practice, maternal sweet food intake, child sweet food intake. Dental caries status was measured by decay, missing, filled-teeth (DMF-T) index. The other data were collected by questionnaire. The data were analyzed by path analysis.

Results: Dental caries was directly and positively associated with sweet food intake ($b= 0.27$, $SE= 0.09$, $p= 0.002$), poor child oral hygiene practice ($b= 0.09$, $SE= 0.04$, $p= 0.018$), and poor maternal oral health knowledge ($b= 0.36$, $SE= 0.10$, $p<0.001$). Maternal oral hygiene practice was associated with maternal attitude towards oral health ($b= 0.33$, $SE= 0.13$, $p= 0.012$) and maternal oral health ($b= 0.18$, $p<0.001$). Child oral hygiene practice was associated with maternal oral hygiene practice ($b= 0.33$, $SE= 0.06$, $p= 0.012$), maternal oral health knowledge ($b= 0.91$, $SE= 0.18$, $p<0.001$), and parenting time ($b= 1.39$, $SE= 0.18$, $p<0.001$).

Conclusion: Dental caries is associated with sweet food intake, poor child oral hygiene practice, and poor maternal oral health knowledge. Maternal knowledge, attitude, and practice in oral hygiene have an important role on dental caries in mentally disabled adolescents.

Keywords: dental caries, adolescents, maternal oral health practice, social learning theory

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BACKGROUND

Dental caries is the process of erosion of tooth layer that its severity level can be seen from the layer of infected teeth. This layer consists of the outermost layer of enamel, then dentin to the chamber layer of the dental nerve, the pulp (Dostalova and Seydlova, 2010). Dental caries can cause

health problems that can affect human health as a whole and contribute to the quality of life of an individual. Around the world, nearly 100% of the adult population has dental caries experience. 60-90% of children and adolescents suffer from dental caries (WHO, 2012), whereas in Indonesia the prevalence of active dental caries

increases by 9.8% (MOH, 2007 and MOH, 2013). Report from Basic Health Research in 2013 shows that the prevalence of dental caries in Indonesia is 76.2%. National prevalence of dental caries index of DMF-T is 4.6, while DMF-T dental caries index in Central Java Province is 4.3. Both DMF-T dental caries indices show dental caries status which is included in the category of high dental caries status (MOH, 2013).

Parental work, especially mother's work, can affect childcare. Mothers who work outside the house for a long time tend to have less time to interact with their children directly. Mothers who work at home are more likely to interact directly with children. Housewives are more benefited by managing the time of interaction with children (Poduval and Poduval, 2009).

Mothers have an important role in adolescent dental-oral health practice which can have an impact on the increased risk of adolescent dental caries (Hall-Scullin et al., 2015). Mothers with good knowledge have better awareness of dental health attitudes and better dental-mouth health practices. The mother's attitude towards positive dental-mouth health can foster positive maternal oral hygiene health practices (Saied-Moallemi et al., 2008). Maternal dental-mouth health practice can be transmitted to children, so that dental-mouth hygiene can increase and reduce dental caries status in mentally disabled adolescents (Piovesan et al., 2010).

In the age group of 10 years and above, 94.6% of the population in Central Java has the habit of brushing their teeth twice a day, which is during the morning bath and evening shower. The correct time to brush your teeth is after breakfast and before going to bed at night, but only 1.7% follow the correct time to brush their teeth (MOH, 2013). This shows that good and correct dental-mouth health practice in

Central Java is still low. One way to shape positive dental-mouth health practice in mentally disabled adolescents is to regulate diet, especially sweet foods that can cause dental caries (Mobley et al., 2009).

Adolescents are a group that is susceptible to dental caries infection. Vulnerability of dental caries is caused by dental-oral health practice (Peres et al., 2007), and hormonal increases during puberty (Lukacs and Largaespada, 2006).

According to WHO (2011) as many as 15% of the world's population is disabled. The number of people with disabilities in Indonesia experienced an increase of 6% in 2013 when compared to the results of basic health research in 2007 (MOH, 2007; MOH, 2013). Based on the results of the National Economic Financial Survey (National Socio-Economic Survey) conducted by the Central Statistics Agency (BPS) in 2012, the number of people with disabilities in Indonesia amounted to 402,817 persons (Ministry of Social Affairs RI, 2015). In Central Java, the highest number of students studying in SLB is students with mental disability, as many as 10,139 students. Based on statistical data, students with mental disability who were enrolled in SLB Surakarta are 646 students. This number is the second highest number in Central Java Province (BP-DIKSUS Central Java, 2017).

Persons with mental disability have impaired intellectual functioning and adaptive behavior (Tasse et al., 2013). This makes people with mental disability have limitations in maintaining oral hygiene teeth independently, so that it can increase the risk of dental caries infection (Marulanda et al., 2011). According to Xavier et al (2013) drugs such as anticonvulsants which are consumed in some people with mental disability, can also cause dental caries.

The formation of positive dental-mouth health practice in mentally disabled adolescents can be applied using social learning theory. This is due to the limitations of mental disability in their intellectual and adaptive functions (APA, 2013). Social learning theory is a theory that discusses two things that can affect changes in human behavior, namely by observational learning and self-regulation. Observational learning is done by observing learning models such as mothers who often interact with children. There are four stages in the observational learning process, namely attention, retention, reproduction and motivation. Self regulation is self-monitoring of thoughts, feelings, and behaviors in order to achieve a goal (Bandura, 1977).

SUBJECTS AND METHOD

1. Study Design

This was an analytic observational study using cross-sectional design. The study was conducted at several special schools for disabled children (SLB) including: SLB C Setya Darma, SLB C YPSLB, SLB CG YPPCG Bina Sejahtera, and SLB C1 YSSD, in Surakarta. The study was conducted on July 2017.

2. Population and Sampling

Mentally disabled adolescents in Surakarta SLB were 646 students. A sample of 150 mentally disabled school children were selected for this study by purposive sampling.

3. Study Variable

The dependent variable was caries dental status of mentally disabled adolescents. The independent variables were parenting time, maternal oral health knowledge, maternal attitude towards oral health, maternal oral hygiene practice, child oral hygiene practice, maternal sweet food intake, child swe-

et food intake. The measurement scale was continuous. The data were analyzed by path analysis.

4. Definition of Variable Operations

The operational definition of maternal oral health knowledge was the level of maternal understanding of oral health. This knowledge contained basic knowledge about oral health. This basic knowledge included the basic structure of dental-mouth anatomy, understanding and prevention of dental-mouth disease.

The maternal attitude towards oral health was the mother's response to everything related to the health of her oral teeth. The maternal attitude towards oral health was obtained after the mother gained oral health knowledge which was a process in the formation of health practice.

Maternal oral health practice was the response or action of the mother in performing care to maintain the health of her oral teeth. The mental disability adolescent oral health practice was the response or action of mentally disabled adolescents in performing care to maintain the health of their oral teeth. Oral health practice of mentally disabled adolescents in the form of good and bad habits related to the oral health. Examples of good oral health practice could be the habit of brushing teeth in the morning after breakfast and at night before going to bed. In addition, make a visit to the dentist at least once every 6 months.

Maternal sweet food diet was the amount, frequency and type of sweet foods consumed by the mother which could cause dental caries infection. Sweet diet for mentally disabled adolescents was the amount, frequency and type of sweet foods consumed by mentally disabled adolescents that could cause dental caries infection.

Parenting time was the time that mothers used to care for their children opti-

mally. Parenting time determined the formation of interactions between mother and child. The formation of oral health practices for mentally disabled adolescents was determined by the interaction between mother and child.

Caries status of mentally disabled adolescents was the number of mentally disabled adolescent teeth infected with dental caries which was calculated using a measuring instrument such as the DMF-T dental caries index (Decayed Missing Filling-Teeth). DMF-T index is a number that shows the number of teeth with dental caries in the respondents. DMF-T is an abbreviation of D (Decayed) which is a tooth that has dental caries, M (Missing) teeth that are removed due to dental caries and F (Filling) teeth that have been patched and are still in good condition.

Previously, the validity test was confirmed by Prof. Bhisma Murti, dr., M.PH., M.Sc., Ph.D and Dr. Eti Poncorini, dr., M.Pd.. Whereas, the reliability test with Alpha Cronbach was performed on 20 mentally disabled adolescents.

5. Study Instrument

The questionnaire to collect data was the instrument used in this study. Questionnaires were distributed to respondents.

Table 1. Reliable test results

Variable	Item Total Correlation (r)	Alpha Cronbach
Parenting Time	≥0.54	0.80
Maternal Oral Health Knowledge	≥0.47	0.81
Maternal Attitude Towards Oral Health	≥0.30	0.75
Maternal Oral Hygiene Practice	≥0.24	0.83
Oral Hygiene Practice	≥0.24	0.89
Maternal Sweet Food Intake	≥0.54	0.75
Sweet Food Intake	≥0.49	0.75

Based on the results of item-total correlation reliability test, it was found that the measurement of parenting time variables, maternal health knowledge, maternal attitudes toward health, maternal health practice, oral health behaviors of mentally

disabled adolescents, mother's sweet food intake, and the sweet food intake of mental disability adolescents calculate ≥ 0.20 , and Cronbach's Alpha ≥ 0.70 , so all questions were reliable. The results of the reliability test questionnaire could be seen in Table 1.

However, first the researcher gave an explanation of the purpose of the study, how to fill out the questionnaire and provided an opportunity for respondents if they wanted to resign as respondents.

Questionnaires were used to measure parenting time, oral health knowledge, maternal attitudes towards oral health, maternal oral health practices, oral health behaviors of mentally disabled adolescents, maternal sweet food intake, and disabled adolescent eating patterns. Dental caries status was DMF-T dental caries index.

6. Data Analysis

Univariate data analysis was performed to display characteristic data and descriptive study variables. Continuous data samples were described using parameters n, mean, SD, minimum and maximum. Categorical data samples were described using n and percentage parameters. Bivariate analysis analyzed the effect of independent variables on the dependent variable by using Pearson correlation. Multivariate analysis used multiple linear regression.

7. Ethical Feasibility

The purpose of ethical health was to protect study subjects. This research had received ethical ethics from the Health Research Ethics Commission Medical Faculty of Sebelas Maret University/ Dr. Moewardi Hospital.

RESULTS

Based on Table 2, it was known that from the total of 150 subjects, most of the menta-

Table 2. Characteristics of study subjects based on mentally disabled adolescent age, education, mother's work, and family income

No	Classification	n	%
1	Age of Mentally Disabled Adolescent		
	10-14 year	90	60
	15-19 year	60	40
2	Education		
	Graduated from high school	77	51.3
	Not graduated from high school	73	48.7
3	Maternal Work		
	Working inside the house	51	34
	Working outside the house	99	66
4	Family income		
	≤ Regional Minimum Wage	98	65.3
	> Regional Minimum Wage	52	34.7

Table 2 shows that the standard deviation ranged from 1.35 to 3.14. The differences that occurred in each variable

Table 3. Description of study variables

Variable	N	Min	Max	Mean	SD
Parenting Time	150	0	5	4.01	1.36
Maternal Oral Health Knowledge	150	0	6	4.99	1.47
Maternal Attitude Toward Oral Health	150	2	9	6.91	2.04
Maternal Oral Hygiene Practice	150	4	18	13.67	3.57
Oral Hygiene Practice	150	0	19	13.47	4.13
Maternal Sweet Food Intake	150	0	5	4.07	1.35
Sweet Food Intake of Mentally Disabled Child	150	0	5	3.69	1.42
Mentally Adolescent Dental Caries Status	150	0	7	2.49	5.09

Table 3 shows the results of the Pearson Product Moment correlation test on the relationship of parenting time with disabled adolescent dental caries status, r value of -0.44 with $p < 0.001$. This showed that the higher the parenting time score, the lower

ly disabled adolescents were 10-14 years old (60%). Whereas, the mentally disabled adolescent mothers had graduated from high school/vocational school, D1, D2, D3, D4/S1 or S2 as many as 77 subjects (51.3%) and mothers who worked outside the house as many as 99 study subjects (66%). Study subjects who had income below the Regional Minimum Wage (1,418,000/month) was 98 subjects (65.3%).

item were relatively large. This indicated that the subject's answer was almost not the same or heterogeneous.

the dental caries status of disabled adolescents.

The results of the Pearson Product Moment correlation test on the relationship of maternal oral health knowledge with dental caries status of disabled adolescent, obtained r value of -0.60 with a p value of

<0.001. This showed that the higher the score of maternal oral health knowledge, the lower the dental caries status of mentally disabled adolescents.

The results of the Pearson Product Moment correlation test on the relationship of maternal attitude towards oral health with dental caries status of disabled adolescent, obtained r value of -0.24 with a p value of 0.004. This showed that the higher the score of maternal attitude towards oral

health, the lower the dental caries status of mentally disabled adolescents.

The results of the Pearson Product Moment correlation test on the relationship between maternal oral hygiene practice with dental caries status of mentally disabled adolescent, obtained r value of -0.46 with p <0.001. This showed that the higher the score of maternal oral hygiene practice, the lower the dental caries status of mentally disabled adolescent.

Table 4. Pearson Product Moment test results

Independent Variable	p	r
Parenting Time	-0.44	<0.001
Maternal Oral Health Knowledge	-0.60	<0.001
Maternal Attitudes Towards Oral Health	-0.24	0.004
Maternal Oral Health Practice	-0.46	<0.001
Oral Health Practice of Mentally Disabled Adolescents	-0.56	<0.001
Maternal Sweet Food Intake	-0.27	0.001
Sweet Food Intake of the Mentally Disabled Adolescents	-0.52	<0.001

The results of the Pearson Product Moment correlation test on oral health practice of mentally disabled adolescents with dental caries status, obtained r value of -0.56 with p<0.001. This showed that the higher the score of oral health practice of mentally disabled adolescents, the lower the dental caries status of mentally disabled adolescents.

The results of the Pearson Product Moment correlation test on the relationship of perception of behavioral control with disabled adolescent dental caries status, obtained r value of -0.27 with a p value of 0.001. This showed that the higher the score of the maternal sweet intake, the lower the dental caries status of mentally disabled adolescents.

The results of the Pearson Product Moment correlation test on the relationship between the sweet food intake of mentally disabled adolescents with mentally disabled

adolescent dental caries status, obtained r value of -0.52 with a p value of <0.001. This showed that the higher the score of the mentally disabled adolescent sweet food intake, the lower the dental caries status of mentally disabled adolescents.

Figure 2 shows the structural model after the estimation using IBM SPSS AMOS 22 was done, so that the values obtained were as shown. Indicator that showed the suitability of the path analysis model that could be seen in Table 4, showed that there was a goodness of fit measure that obtained a CMIN fit index (1,16) with a value of p = 0.329>0.050, GFI= 0.98>0.90, NFI= 0.98 >0.90, CFI= 1.00>0.90, RMSEA= 0.03 <0.08 which meant that the empirical model met the criteria specified and stated in accordance with empirical data.

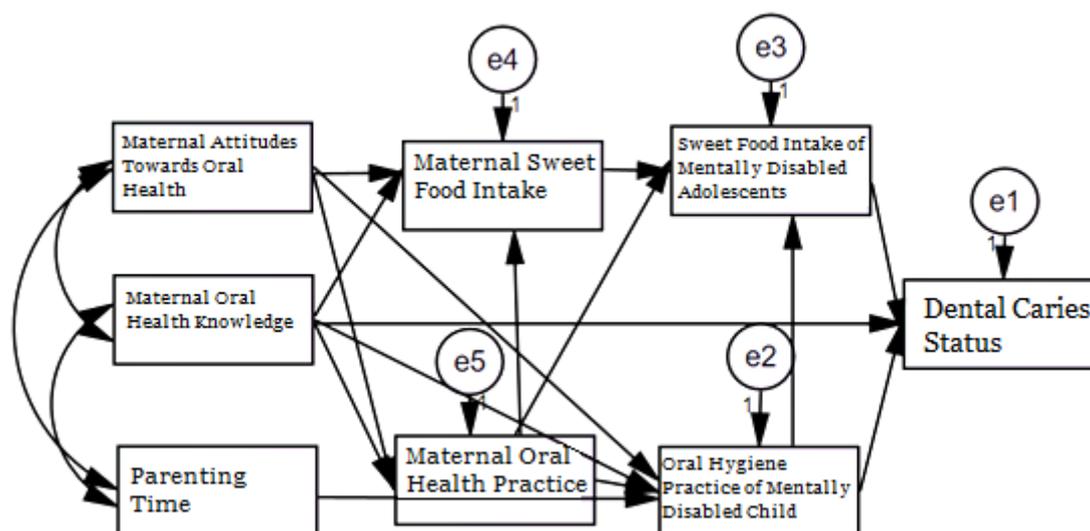


Figure 1. Structural model of factors that influence dental caries status of mentally disabled adolescents

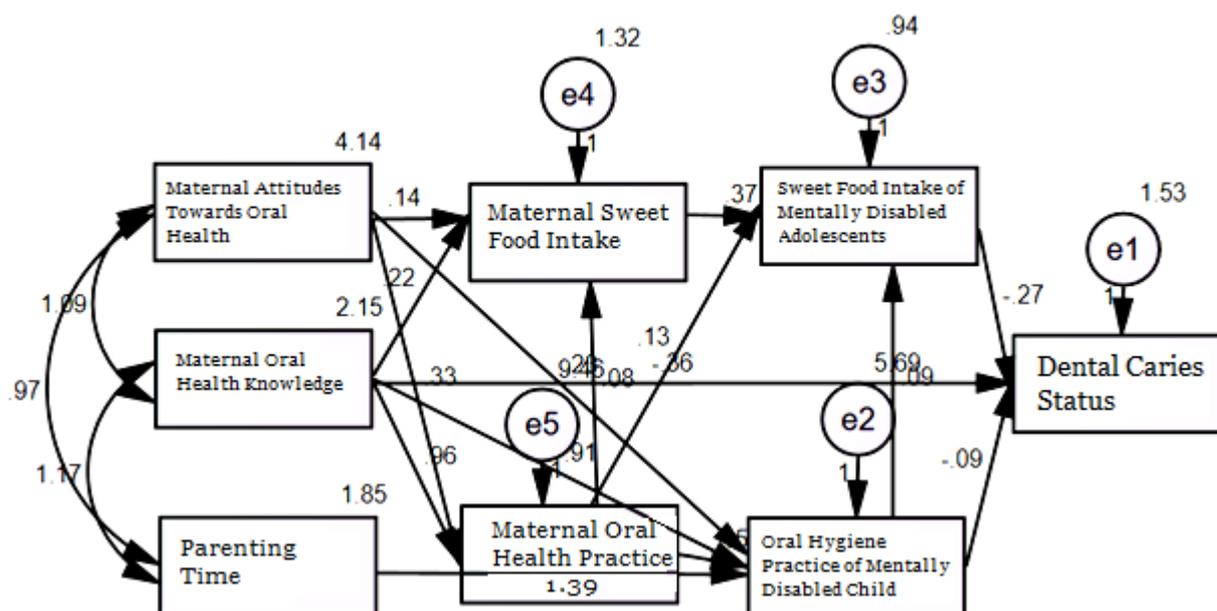


Figure 2. Structural model of factors that influence the mentally disabled adolescent dental caries status with unstandardized solution

Table 4 shows the results of path analysis using IBM SPSS AMOS 22 computer program software. Path coefficient value (b) was obtained between the sweet food intake of mentally disabled adolescents and dental caries of mentally disabled adolescent (b= 0.27, SE= 0.09, p= 0.002), oral health practice of mentally disabled adolescents with

dental caries status of mentally disabled adolescent (b= 0.09, SE= 0.04, p= 0.018), maternal oral health knowledge with dental caries status of mentally disabled adolescent (b= 0.36, SE= 0.10, p<0.001), maternal attitude toward oral health with maternal oral health practice (b= 0.33, SE= 0.13, p= 0.012), maternal oral health knowledge

with maternal oral health practice (b= 0.96, SE= 0.18, p<0.001), maternal oral health practices with oral health practice of mentally disabled adolescents (b= 0.15, SE= 0.06, p= 0.022), maternal oral health know-

wledge with oral health practice of mentally disabled adolescents (b= 0.91, SE= 0.18, p<0.001), and parenting time with oral health practice of mentally disabled adolescents (b= 1.39, SE= 0.18, p<0.001).

Table 4. Path analysis results on factors that influence dental caries status of mentally disabled adolescents

Dependent Variable	Independent Variable	b*	SE	p	β**
Direct Effect					
Dental caries status	← Adolescent sweet food intake	-0.27	0.09	0.002	-0.24
Dental caries status	← Adolescent oral hygiene practice	-0.09	0.04	0.018	-0.22
Dental caries status	← Maternal knowledge	-0.36	0.10	<0.001	0.32
Indirect Effect					
Maternal oral hygiene practice	← Maternal attitude	0.33	0.13	0.012	0.19
Maternal oral hygiene practice	← Maternal knowledge	0.96	0.18	<0.001	0.40
Adolescent oral hygiene practice	← Maternal oral hygiene practice	0.15	0.06	0.022	0.13
Adolescent oral hygiene practice	← Maternal knowledge	0.91	0.18	<0.001	0.32
Adolescent oral hygiene practice	← Parenting time	1.39	0.18	<0.001	0.46
Model Fit					
CMIN	= 1.14	p = 0.329 (>0.050)			
NFI	= 0.98	(≥0.90)			
CFI	= 1.00	(≥0.95)			
GFI	= 0.98	(>0.90)			
RMSEA	= 0.03	(≤0.08)			

DISCUSSION

1. The influence of sweet food intake on dental caries status of mentally disabled adolescents

The results of path analysis showed that there was an influence between the sweet food intake pattern of mentally disabled adolescents with dental caries status of disabled adolescents. The results of this analysis indicated that mentally disabled adolescents who had a sweet food intake pattern who had lower dental caries status. These results were statistically significant, so the findings were reliable.

The results of this study were in line with a study conducted by Diaz-Garrido et al (2016) which showed that the more sucrose consumed, the greater the risk of dental caries. In addition, there were *Streptococcus mutans* colonies in biofilm formation caused by consumption of sucrose or sugar that caused dental caries. This biofilm attached to the enamel which was the outermost layer of the tooth. This was supported by Purkait's study (2011) that bacteria caused dental caries played a role in producing acid from the carbohydrate fermentation process. This acid would then soften the dental tissue from the enamel to the pulp.

For some people, eating sweet foods is a habit that hard to break. Most people, especially children in school years love sweets such as candy, chocolate, biscuits and other soft sugary foods have great impact on the increased risk of dental caries infection (McCabe, 2015). This is because sugar is a nutrient for caries-causing bacteria, so that bacteria are able to create an oral environment under acidic conditions and cause a demineralization process to the appearance of dental caries (Rajendran and Sivapathasundharam, 2012).

Based on these explanations, it could be concluded that the results of this study were in accordance with the previous theories and studies. The high score of sweet food intake of the mentally disabled adolescents indicates that mentally disabled adolescents consume less sweet foods that cause dental caries, so that the fewer mentally disabled adolescents consume sweet foods, the lower the dental caries status of the mentally disabled adolescents.

2. The influence of oral health of mentally disabled adolescent practice on dental caries status of mentally disabled adolescents

According to Okada et al (2002) oral health practices include habits in caring for teeth, such as brushing teeth, using fluoride-containing toothpaste, interdental cleansing, sugar diets and practices in dental care. Good oral health practice is done as an individual's prevention of oral diseases such as dental caries.

The results of path analysis showed that there was a positive influence between the oral health practices of mentally disabled adolescents with dental caries status of mentally disabled adolescents. Mentally disabled adolescents with higher oral health practice scores had lower dental caries status compared to mentally disabled

adolescents with lower oral health practice scores. This result was statistically significant with a value of $p < 0.05$, so that the findings were reliable.

The results of this study were in line with the study conducted by Vadiakas et al. (2011) that also explained about adolescents who visited a dentist only when experiencing pain in the teeth-mouth alone had a higher caries status compared to adolescents who routinely made visits to the dentist. Liu et al. (2014) study also found that doctor visits and frequency of tooth brushing affected dental caries status in children aged 12-17 years. This study also showed that the lower the frequency of tooth brushing in adolescents, the higher the dental caries status of adolescents.

Adolescents tend to consume various kinds of food in large quantities due to their rapid growth. Foods consumed such as snacks at school often do not contain nutrients that are good enough for teeth. Snacks at school are a type of fast food. These snacks are popular among teenagers because the prices are affordable and practical for consumption. These snacks usually contain high sugar which is cariogenic or can trigger the development of dental caries. Consumption of foods containing high sugar, especially cariogenic sugar is a determinant in poor oral health practice. This increases the risk of dental caries infection in adolescents. Barton and Parry-Jones (2000) explain that oral health practice that are formed in adolescence will affect oral health practice in adulthood. Therefore, the formation of good oral health practice needs to be applied in adolescence.

Based on this explanation, it could be concluded that the results of this study were in accordance with the theory and study that had been done before. Oral health practice of mentally disabled adoles-

cents is related to the dental caries status of mentally disabled adolescents. The better the oral health practice of mentally disabled adolescents, the higher the likelihood of having low dental caries status.

3. The influence of maternal oral health knowledge on dental caries status of mentally disabled adolescents

The results of path analysis showed that there was a positive influence between maternal oral health knowledge with dental caries status of mentally disabled adolescents. A mother with a good score on oral health knowledge would show a negative dental caries status of a mentally disabled adolescents. The results of this analysis indicated that mothers who have good oral health knowledge would reduce dental caries status of mentally disabled adolescents. The results were statistically significant, so the findings were reliable.

The results of this study were in line with the study conducted by Chu et al. (2012) that maternal oral health knowledge affected the status of dental caries in children. This was supported by the study of Bozorgemhr et al. (2013) which explained that maternal health knowledge could affect children's health. This study also explained that maternal knowledge influenced the amount of child plaque which was a risk factor for dental caries.

Knowledge of dental caries is a basic knowledge of oral health. Oral health knowledge related to dental caries consisted of several subject matter regarding dental caries, such as the definition of dental caries, characteristics of dental caries, causes of dental caries, prevention of dental caries and treatment of dental caries. Oral health knowledge comes from various sources such as oral health education conducted by cadres, oral health workers and the environment (Felton et al., 2014).

Based on the explanation, it could be concluded that the results of this study were in accordance with the theory and study that had been done before. Maternal oral health knowledge is related to dental caries status of mentally disabled adolescents. The more mothers possess positive oral health knowledge, the higher the likelihood of having a negative dental caries status.

4. The influence of maternal attitude towards oral health on maternal oral health practice

The results of path analysis showed that there was a positive influence between maternal attitudes toward oral health and maternal oral health practice. The results of this analysis indicated that mothers with positive oral attitudes had the possibility to have positive oral health practices. The results were statistically significant, so the findings were reliable.

The results of this study were in line with the study conducted by Saied-Moallemi et al. (2008) which showed that maternal attitudes toward oral health could affect children's oral health practice. A positive attitude could foster positive practice. Attitudes toward positive oral health could be demonstrated in the form of oral health practices in maintaining oral hygiene.

The theory explains that good oral attitudes can prevent oral disease such as dental caries when manifested in the form of oral health practice (Sa'adu et al, 2012). Based on this explanation, it could be concluded that the results of this study were in accordance with the theory and study that had been done before. Maternal attitude towards oral health is positively related to maternal oral health practice. The more mothers possess positive attitude towards oral health, the higher the likelihood that

the mother will have positive oral health practice.

5. The influence of maternal oral health knowledge on maternal oral health practice

The results of path analysis showed that there was a positive influence between maternal oral health knowledge and maternal oral health practice. The results of the analysis showed that mothers who had positive oral health knowledge had the possibility to have positive oral health practice. The results obtained were statistically significant, so that the findings were reliable.

This is supported by the study of Lalic et al (2013) explained that maternal oral health behavior was influenced by oral health practice. The use of dental floss was shown to mothers who had better knowledge.

Oral health knowledge is an individual's ability to obtain, process, and understand basic oral health information and services that can be taken into consideration in making health decisions (Horowitz and Kleinman, 2008). Knowledge of dental caries is a basic knowledge of oral health. Knowledge of dental caries is a basic knowledge of oral health. Oral health knowledge related to dental caries consisted of several subject matter regarding dental caries, such as the definition of dental caries, characteristics of dental caries, causes of dental caries, prevention of dental caries and treatment of dental caries. Oral health knowledge comes from various sources such as oral health education conducted by cadres, oral health workers and the environment (Felton et al., 2014).

Based on the explanation, it could be concluded that the results of this study were in accordance with the theory and study that had been done before. Maternal oral health knowledge is positively related to

maternal oral health practice. The more mothers possess positive oral health knowledge, the higher the likelihood of having a positive oral health practice.

6. The influence of maternal oral health practice on oral health practice of mentally disabled adolescents

The results of path analysis showed that there was an influence between maternal oral health practice and the oral health practice of mentally disabled adolescents. The results of the analysis showed that mothers who had positive oral health practices affecting mentally disabled adolescents had positive oral health practices. The results were statistically significant, so the findings were reliable.

The results of this study were in line with the study conducted by Piovesan et al (2010) which showed that maternal oral health practice could be transmitted to children, so that oral hygiene could increase and reduce dental caries status in mentally disabled adolescents. Nourijelyani et al (2014) also explain that the oral health practice of children is influenced by maternal oral health practice.

Social learning theory explained that individuals do learning by the process of recognizing the behavior of the model to be imitated. Then, consider and decide to emulate so that it becomes their own behavior. Model behavior is a variety of behaviors that are known in their environment. In this case, the behavior model is the mother (Chance, 2009). The results of this study explained that the theory of social learning is a theory that can be applied to oral health of adolescents with mental disability.

Based on the explanations, it could be concluded that the results of this study were in accordance with the theory and study that had been done before. The positive behavior of the maternal oral health is related

to the oral health practice of mentally disabled adolescents. The more positive the maternal oral health behavior, the higher the chances of mentally disabled adolescent have positive oral health behaviors.

7. The influence of maternal oral health knowledge on oral health practice of mentally disabled adolescents

The results of the path analysis showed that there was a positive influence between maternal oral health knowledge and the oral health behavior of mentally disabled adolescents. The results of the analysis showed that mothers who had positive oral health knowledge had the possibility for mentally disabled adolescents to have positive oral health behaviors. The results obtained were statistically significant, so that the findings were reliable.

This was supported by a study conducted by Poutanen et al (2006) which explained that the parental oral health knowledge, including mothers influenced the oral health practice of children. The oral health practices in question include consuming sweet foods which are bad oral health practices and consuming gum containing xylitol and the use of toothpaste containing fluoride as a good oral health practice.

Based on these explanations, it can be concluded that the results of this study were in accordance with the theory and study that had been done before. The positive maternal oral health knowledge is related to the oral health practice of mentally disabled adolescents. The more positive the maternal oral health knowledge, the higher the chances of mentally disabled adolescents have positive oral health behaviors.

8. The influence of parenting time on oral health practice of mentally disabled adolescents

The results of the path analysis showed that there was a positive influence between mat-

ernal oral health knowledge and the oral health practice of mentally disabled adolescents. The results of the analysis showed that mothers who had positive oral health knowledge had the possibility for mentally disabled adolescents to have positive oral health behaviors. The results obtained were statistically significant, so that the findings were reliable.

This was supported by a study conducted by Nourijelyani et al (2014) which explained that parental involvement could influence the formation of children's oral health practice. Parenting time played an important role in the development of children's behavior, including the oral health practice of mentally disabled adolescents. The duration of interaction between mother and child provide an opportunity for children to learn and imitate the maternal attitude and maternal health behavior. Besides, basic health knowledge provided by the mother can also be absorbed by the child through this interaction process (de Castilho et al., 2013).

The role of the mother demands to have enough parenting time to teach and exemplify the child about good behaviors by providing sufficient knowledge to the child. Adequate parenting time must also be supported by quality parenting time. Quality parenting time can be demonstrated by good interactions between mothers and adolescents such as being able to communicate well with each other (Goldberg and Carlson, 2014).

Based on these explanations, it could be concluded that the results of this study were in accordance with the theory and study that had been done before. The positive practice of maternal oral health is related to the oral health practice of mentally disabled adolescents. The more positive the maternal oral health practice, the higher the chan-

ces of mentally disabled adolescents have positive oral health practices.

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