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Meta Analysis: The Relationship Of Knowledge And Education Level Of The Mother With Dental Caries In Children

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Abstract-**Background:** One of the health that must be considered is dental and oral health. Dental and oral health is part of body health that cannot be separated from one another because dental and oral health will affect the health of the body. In general, it is estimated that 90% of school-aged children worldwide have experienced caries. In the United States, the caries rate is 5 times higher because caries is categorized as a chronic disease. Caries is the primary pathological cause of tooth loss in children, between 29% and 59% of adults less than 50 years of age have caries. In Indonesia, 67.2% of children have experienced dental caries. Children's own behavior is influenced by the behavior of parents, especially mothers, such as the behavior of children in brushing their teeth and maintaining dental health is influenced by the parents themselves. The behavior of these parents is influenced by their knowledge and level of education

Aim: To determine the relationship between knowledge and level of education of mothers with dental caries in children.

Method: This study uses a meta-analysis method with a cross-sectional design and uses the research gate search method on the pubmed, sinta and garuda databases. The results of the identification after going through the selection stage obtained 15 journals that match the inclusion criteria. Statistical test using Revman 5.4.

Result: Of the 2 variables studied, namely mother's knowledge (8 articles) and mother's education level (9 articles) had a weak influence on dental caries in children with knowledge pOR = 2.14 (95% CI = 1.19-3.87), and education level pOR = 1.70 (95% CI= 1.26-2.31).

Conclusion: Mother's knowledge and education level have a weak influence on dental caries in children.

Index Terms- *Dental caries in children, mother's knowledge, mother's education level.*

I. INTRODUCTION

Health is one of the health that must be considered is dental and oral health. Dental and oral health is part of body health that cannot be separated from one another because dental and oral health will affect the health of the body. Maintenance of oral

dental and oral hygiene is an effort to improve dental and oral health. The role of the oral cavity is very large for human health and well-being. In general, a person is said to be healthy, not only a healthy body but also a healthy oral cavity and teeth. Therefore, dental and oral health plays a very important role in supporting one's body health (Boy, 2019).

Dental caries, also known as cavities, is a disease in which bacteria damage the structure of tooth tissue, namely enamel, dentin, and cementum. The tissue is damaged and causes cavities in the teeth. Dental caries is chronic and takes a long time to develop. Dental caries is defined as pathological process of external origin resulting in softening of the hard tissues of the teeth and leading to the formation of cavities. Dental caries is one of the chronic diseases that most often affects individuals at all ages (Suartini, 2019).

Everyone can experience dental caries, generally school-age children around the world are estimated at 90% have experienced caries. In the United States, the caries rate is 5 times higher because caries is categorized as a chronic disease. Caries is the primary pathological cause of tooth loss in children, between 29% and 59% of adults less than 50 years of age have caries. In Indonesia, 67.2% of children have experienced dental caries (Novitasari, 2010).2014). At the age of 6-12 years, children are expected to be treated more intensively because at that age there is a change of teeth and the growth of new teeth. By the age of 12 all the primary teeth have fallen out and the majority of the permanent teeth have erupted. One of the causes of children experiencing caries is due to food residue that sticks to the surface of the teeth and the habit of consuming sweet and sticky snacks. The size of the influence of risk factors on the incidence of caries in school children is influenced by knowledge, awareness, and habits in caring for dental health, habits that need to be possessed by children include cleaning their teeth and choosing the type of food (Reca, 2017).

Dental and oral health is something that is often ignored by many people, even though teeth and mouth are the "entrance" for bacteria and germs that can interfere with other body organs. Dental and oral health is an integral part that cannot be separated from general health. The World Health Organization (WHO) in 2012 defined dental and oral health as a state of being free from oral and facial diseases and throat cancers, infections and sores of the mouth, gum and periodontal disease, and disorders that

limit an individual's capacity to function. chewing, biting, smiling, talking and psycho-social well-being. From what the World Health Organization describes, this shows the importance of oral hygiene, not only to prevent oral disease but as a booster of an individual's self-confidence. Oral and dental health is not only about teeth, but also relates to the gums and the supporting bones and soft tissues of the mouth, tongue and lips. The three main groups of dental and oral diseases are caries, gum disease (otherwise known as periodontal disease) and oral cancer. Oral and dental health is important, because oral and dental health can affect the overall health of the body (Patel, 2012). According to the World Health Organization (WHO), 3.5 billion people have dental and oral problems in the world. Meanwhile, more than 530 million children suffer from caries during the primary dentition phase (WHO, 2020).

Based on the Minister of Health Regulation No. 89 of 2015 concerning efforts to improve the quality of dental and oral services in order to reduce the prevalence of caries has not been achieved. This is shown from the 2018 National Basic Health Research data, around 57.6% of the Indonesian population has dental problems. While 93% of early childhood, namely in the age range of 5-6 years experienced caries. Only 7% of Indonesian children are free from caries (Riskesdas, 2018). These data indicate that there is still a lack of effort in preventing caries in children, so further research is needed to evaluate existing government policies.

The cause of caries is caused by several factors. According to the multifactorial theory proposed by Keyyes which divides the causes of caries into 2, namely internal factors and external factors. Internal factors consist of the host, substrate and microorganisms. While external factors consist of heredity, environment, health services and behavior. Children's own behavior is influenced by the behavior of parents, especially mothers, such as the behavior of children in brushing their teeth and maintaining dental health is influenced by the parents themselves. The behavior of these parents is influenced by the knowledge and level of education they have (Tjahja, 2011).

Based on the theory of Keyes in 1960, a more modern theory was developed. The theory illustrates that internal factors such as host, substrate and microorganisms are in the inner circle, while external factors are in the outer circle of the etiological factors of the modern caries theory that has been developed. From this theory, it can be explained that external etiology influences internal etiology. External etiology such as knowledge, income. In the behavior itself, one of them consists of knowledge and level of education. These factors have a big influence. Because these two things can affect other factors such as habits and income factors. If an individual's knowledge is good, then his habits will change for the better. If the level of education is high, then his income will likely increase as well. So that some external factors are influenced by knowledge and education level. Furthermore, these external factors influence internal factors according to the modern caries theory which was developed from Keyes theory (Loveren, 2012).

Parental knowledge is very important in underpinning the formation of behaviors that support or do not support children's dental and oral hygiene. Knowledge affects 3 main caries factors, namely host, substrate and microorganism. With better

knowledge, the individual's awareness of maintaining oral hygiene is also greater (Miftakhun, 2016).

Education level is one of the factors related to children's dental health. A person's educational status is related to how to keep himself and those around him clean. This includes maintaining dental health. The higher a person's education is expected to be better in maintaining the dental health of their children (Miftakhun, 2016).

Research with meta-analysis is a technique used to summarize the findings of two or more studies with the aim of combining, reviewing and summarizing previous research. In addition, by using meta-analysis, various questions can be investigated based on data that has been found from the results of previous studies that have been published and one of the requirements needed in conducting a meta-analysis is an assessment of the results of similar research. One of the advantages of meta-analysis is that a new study with a large number of subjects can be obtained so that more definitive conclusions can be drawn (Sriawan & Utami, 2015).

II. RESEARCH METHOD

The research design used was a systematic literature review (SLR) with a meta-analysis type of research. This Literature Review uses literature published in 2016-2021 which can be accessed in full text in pdf format. The search engines used are PubMed, Science Direct, USU Repository (Library.usu.ac.id), Mirrorscientific Data at LIPI, Google Scholar, Public Library of Science (PLoS) using keywords. "Pengetahuan", "tingkat pendidikan", "Ibu", "Karies", "Anak", "Knowledge", "Education", "Mothers", "Children", "Caries" and limited to 3,135 articles in 2016-2021. After going through the screening and being seen in accordance with the inclusion and exclusion criteria that will be studied, 12 articles are obtained that are appropriate and will be reviewed. The criteria for the journals reviewed are research journal articles in Indonesian or English with the subject of the mother. the type of journal is a research article with the theme of the relationship between knowledge, mother's education and child's dental caries. The literature search and selection process in this study will be described in the form of a Flow diagram in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA). After the literature search and selection process was carried out, data extraction was carried out, namely the name of the author, year of publication, variables studied, research subjects and the number of subjects, research results (according to SPIDER, namely sample, phenomenon of interest, design, evaluation, research type). The quality of research articles will be analyzed using Duffy's Research Appraisal Checklist Approach. This research will use Revman version 5.4.

III. FINDINGS

Research Characteristics
In meta-analysis, the type of research that can be analyzed is research that has statistical measures such as mean, standard deviation, odds ratio, relative risk, difference in mean,

correlation. The search for research journals that met the inclusion criteria resulted in 13 research journals that could be analyzed using the RevMan 5.4 program. The data presented from research journals on the three independent variables are the type/design of the study, sample size (n), significant value (p-value), prevalence ratio, and Confidence Interval (95% CI).

a.   Knowledge Variable

Of the 13 research articles reviewed, the data that deserves to be inputted using the Revman 5.4 program, there are 8 research articles that examine the knowledge of mothers with dental caries in children with a total (N) sample of 1,267 samples. The following is a description in tabular form for 7 research articles on maternal knowledge. (Table 1)

b.   Social Support Variable

Of the 12 research articles reviewed and eligible for input using the Revman 5.4 program, there are 9 journals that review and discuss the relationship between education level and dental caries in children with a total (N) sample of 1871 samples. The following articles are attached in tabular form. (Table 2)

Table 1 Research Characteristics of the Relationship between Knowledge and Caries in Children

No.	Researcher	Pub Year	N (Sanpel)	p-value	OR	95% CI
1	Abdat	2020	44	0.0001	13.44	1.58-114.26
2	Afiati	2017	46	0.01	14.70	2.31-93.45
3	Afrinis	2021	98	0.003	3.86	1.65-9.01
4	News	2019	392	0.031	1.41	0.92-2.15
5	Luz	2019	50	0.722	0.87	0.43-1.75
6	vest	2016	65	0.27	4.45	0.23-86.60
7	Sukarsih	2018	180	1,000	0.71	0.06-8.11
8	Sun	2017	392	0.023	1.65	0.78-3.48
Total Sample			1,267			

Table 2 Research Characteristics of the Relationship between Education Level and Dental Caries

No.	Researcher	Pub Year	N (Sample)	p-value	OR	95% CI
1	Afiati	2017	46	0.01	12.15	2.23-66.20
2	Alkhtib	2018	400	0.651	1.16	0.64-2.09
3	Bramantoro	2020	50	0.292	0.97	0.55-1.72
4	Chala	2018	502	0.04	2.07	1.43-3.00
5	Cianetti	2017	50	0.252	1.80	1.08-2.99
6	Dieng	2020	315	0.0001	2.98	1.82-4.89
7	Sun	2017	392	0.033	1.32	0.86-2.04
8	Susie	2020	66	0.103	2.93	0.95-9.03
9	Youseffi	2020	50	0.2426	1.19	0.74-1.91
Total sample			1,871			

Meta-analysis of the Relationship of Mother's Knowledge with Dental Caries in Children

Based on Figure 1 shows the results of data analysis from 8 articles which were analyzed using the Random Effect Model analysis model. From the results of the heterogeneity test, including high with a value (I2) of 60% and p value = 0.01. The forest plot table shows that there is a relationship between mother knowledge and dental caries in children with p value <0.05, namely p = 0.01 and pooled odds ratio value of 2.14 (95% CI 1.19-3.87) , so it can be concluded that mothers who have good knowledge can reduce the risk of dental caries in children by 2.14 times compared to mothers who have poor knowledge.

Based on Figure 2, the results of the funnel plot show that there is no bias, this is indicated by the number of plots on the left and right of 4 on the right and 4 on the left, so there is no publication bias.
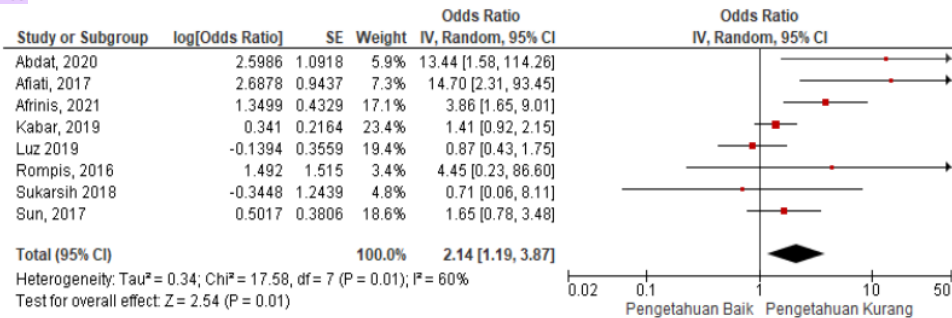
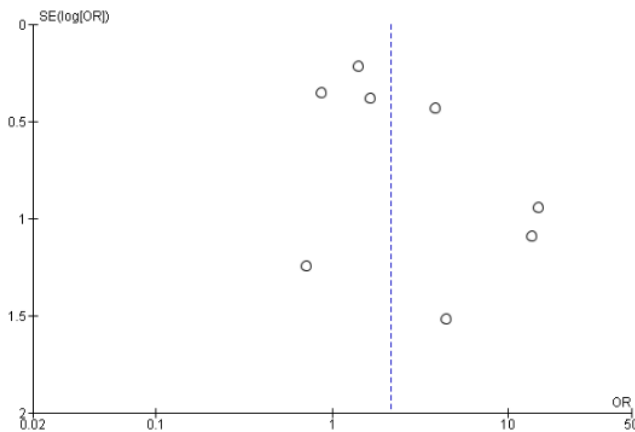Figure 1 Forest plot research study of mother's knowledge of dental caries in children

Figure 2 Funnel plot of the combined study of the relationship of self-efficacy with the incidence of burnout in nurses in hospital.

Meta-analysis of the Relationship of Mother's Education Level with Dental Caries in Children

Based on Figure 3 shows the results of data analysis from 9 articles which were analyzed using the Random Effect Model analysis model. From the results of the heterogeneity test, including high with a value of (I2) of 62% and p value = 0.007.

From the forest plot table, it shows that there is a relationship between mother's knowledge and dental caries in children with p value <0.05, namely p = 0.0006 and pooled odds ratio value of 1.70 (95% CI 1.26-2.31) , so it can be concluded that mothers who have a high level of education can reduce the risk of dental caries in children by 1.70 times compared to mothers who have a low level of education.

Figure 4 shows the results of the funnel pot that there is no publication bias indicated by the symmetry of the right and left plots of the vertical line where the distance between the plots is almost the same, there are 4 plots on the right and 4 plots on the left and 1 plot touches the vertical line.
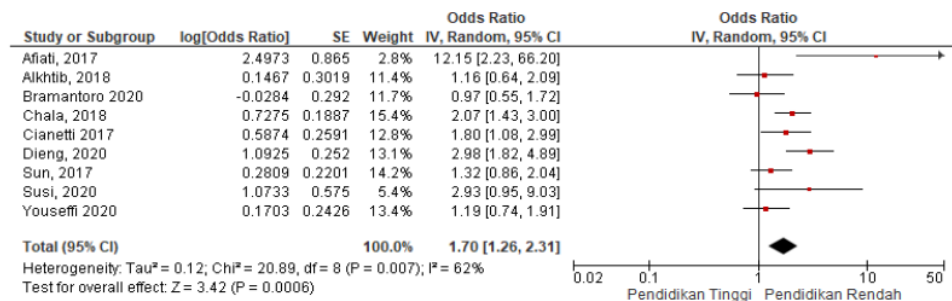
Figure 3 Forest plot research study of maternal education level with dental caries in children
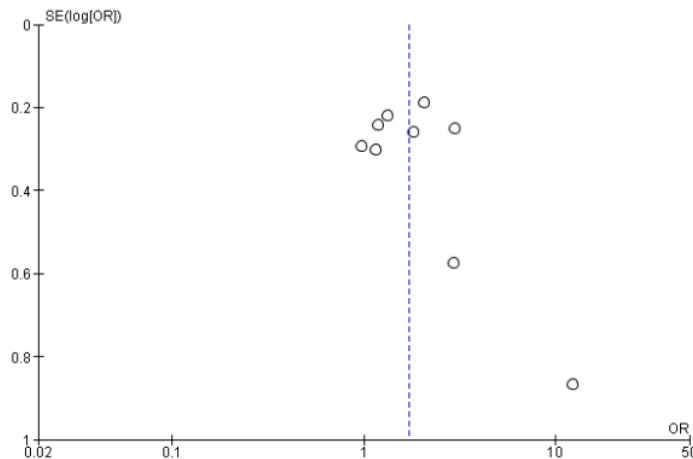

Figure 4 Funnel plot the relationship between mother's level of education and dental caries in children

IV. DISCUSSION

Meta Analysis of Mother's Knowledge with Dental Caries in Children

a. Research variation and heterogeneity

The results of the analysis show different values of variance and weights. The theory expressed by Dahlan (2012) that the weight in a study is directly proportional to the number of research subjects (research samples). Research with 100 subjects will have a greater weight than research with 50 subjects. In addition to the number of subjects, the weight is also influenced by variations in the data. The weights are inversely proportional to the variation of the data. Research with more varied data will have a smaller weight than research with smaller variations.

Objectively, determining the role of variation between studies was tested by heterogeneity test. If the results show p>0.05 then it is declared homogeneous, meaning that the variation between studies does not play a role in the total variation, on the contrary if the heterogeneity test results show p<0.05, it is declared heterogeneous, which means that the variation between studies has a role in the total variation. In addition to the p value, the data variation also looks at the value of variation between studies (I2). If there is a result of 50% below it can be categorized as homogeneous variation and if it is above 50% it is considered heterogeneous. The null hypothesis is rejected if the p value in the heterogeneity test is greater than 0.05 (Dahlan, 2012).

In the heterogeneity test of the mother's knowledge variable, p <0.05 was obtained with p value = 0.01 and a (I2) value of 60%, which means the heterogeneity is quite high. So that the analysis is carried out with the Random Effect Model.

In the heterogeneity test of the mother's education level variable, the p value <0.05 with p value = 0.007 and the value (I2) of 62%, which means the heterogeneity is quite high. So also the analysis with the Random Effect Model is the same as the mother's knowledge variable.

b. Analysis of research results

This study is the first meta-analytical study to analyze the relationship between knowledge and education level with dental caries in children. Many studies have analyzed the knowledge status of mothers with dental caries in children. For this reason, statistical analysis was carried out using meta-analysis to prove the quality of each study so that new quantitative data were obtained with a larger sample size and more accurate conclusions could be drawn.

The results of journal searches from various sources ultimately resulted in 10 studies that met the inclusion criteria, only 8 articles that could be analyzed into meta-analysis with RevMan 5.4 application software. Even though in the end only eight studies were obtained, the research can be continued by using meta-analysis because according to Sastroasmoro (2011) in his book states that meta-analysis is a combination of two or more studies. So it can be concluded that with a minimum of two studies, quantitative analysis can be carried out with meta-analysis.

In 8 articles on maternal knowledge, articles were analyzed involving 1,267 research samples from the total number of samples in each research study. From the results of the study, it was found that the size effect value was 2.54, the pOR value was 2.14 (95% 1.19-3.87) with a p value of 0.01, namely p = 0.01. So it can be concluded that mothers who have good knowledge can reduce the risk of dental caries in children by 2.14 times compared to mothers who have poor knowledge.

Meta Analysis of Mother's Education Level with Dental Caries in Children

a. Research Variation and Heterogeneity

Analysis of 10 research articles that meet the inclusion criteria, only 9 research articles can be analyzed into meta-analysis with Revman 5.4 application software. from an article that discusses the educational level of mothers with dental caries in children,

the results of the variance and weight values are different. Determination of the role of variation between studies was tested by heterogeneity test.

In the heterogeneity test of the mother's knowledge variable, the p value <0.05 with p value = 0.007 and the value (I2) of 62%, which means the heterogeneity is quite high. So that the analysis is carried out with the Random Effect Model.

In the heterogeneity test of the mother's education level variable, the p value <0.05 with p value = 0.0006 and the value (I2) of 62%, which means the heterogeneity is quite high. So also the analysis with the Random Effect Model is the same as the mother's knowledge variable.

1 Analysis of Research Results

This study is the first meta-analysis study that analyzes previous research studies on the relationship between maternal education level and dental caries in children. Many studies have been conducted to examine the relationship between maternal education level and dental caries in children. For this reason, statistical analysis was carried out using meta-analysis to prove the quality of each study so that new data were quantitative in nature with a larger sample size and more accurate conclusions could be drawn.

The results of journal searches from various sources ultimately resulted in 10 research articles that met the inclusion criteria, there were 9 studies that could be analyzed into meta-analysis with RevMan 5.4 application software.

In 9 articles on maternal education level, articles were analyzed involving 1,871 research samples from the total number of samples in each research study. From the results of the study, it was found that the size effect value was 3.42, the pOR value was 1.70 (95% 1.26-2.31) with a p value of 0.01, namely p = 0.0006. So it can be concluded that mothers who have a high level of education can reduce the risk of dental caries in children by 1.70 times compared to mothers who have a low level of education.

Comparison of All Articles in Meta-Analysis Research
Apart from the knowledge status and educational level of the mother, there are many other factors associated with dental caries in children. We can analyze them from the 15 research studies in this meta-analysis which also analyzed various independent variables related to dental caries in children. The more variables studied, the better the quality of the research. However, the variables studied must also be right on target (Ratnasari, 2016).
Research by Afiati, et al., (2017) examined 4 variables. The variables are mother's knowledge, mother's social status, level of education and level of dental caries in children. In the study of Abdat, et al., (2020) examined the knowledge and habits of mothers associated with dental caries in children. Research conducted by Afrinis, et al., (2021) examined the factors associated with caries in children, careful variables namely mother's knowledge, habit of brushing teeth and habit of eating sweet foods. In the study of Kabar, et al., (2019), a study was conducted on the relationship between mother's knowledge and dental caries in children. In a study conducted by Rompis et al (2016) examined the relationship between mother's knowledge and dental caries in children. Research conducted by Sukarsih, et al., (2018) examined mother's knowledge, education level, family income with caries status in children.

research conducted by Alkhtib, et al., (2018) examined the knowledge, attitudes and behavior of mothers associated with dental caries in children. Research conducted by Bramantoro, et al., (2020) examined the level of education, frequency of visits to the dentist and oral habits. Research Cianetti, et al. (2017) examined the level of education, visits to the dentist and family opinion. Research conducted by Chala, et al., (2018) examined the level of education and maternal behavior related to dental caries. Research Dieng, et al. (2020) examined the level of mother's education, maternal age and behavior to maintain dental health. In the research of Susi, et al. (2020) examined maternal education, number of children and mother's occupation associated with dental caries in children.

the research of Afiati, et al., (2017) the variables studied were mother's knowledge, mother's social status and the level of dental caries in children. This study found a relationship between knowledge, social status and level of knowledge with dental caries in children. The knowledge and education level variables show that the better the mother's knowledge about dental health in children, the lower the child's dental caries. This is indicated by the correlation of -0.765. These results are the same as the social level variable, the higher the social status, the lower the caries level in the child, the statistical results show the correlation result -0.791 with p-value = 0.01.

Research conducted by Abdat, et al., (2020) which examined mother's knowledge and habits related to child dental caries, showed a very strong relationship. In the knowledge variable the value of p <0.05 with a value of p = 0.0001, while the habit variable also shows a very strong relationship with the value of p <0.05 with a value of p = 0.004. This study shows that the mother's role in children's dental health is very important, because the mother is an example in behavior. Habits and knowledge are interrelated, good knowledge will lead to good habits as well. So that the better the knowledge possessed about maintaining dental health, the individual's behavior in maintaining dental health will be in a better direction as well.

Research conducted by Afrinis, et al., (2021) examined 3 independent variables associated with dental caries in children. The 3 variables are mother's knowledge, habit of brushing teeth and habit of eating sweet foods. Statistical results show that mother's knowledge has an effect on dental caries in children with p value <0.05 with p value = 0.003. The habit of brushing teeth has a p value <0.05 with a p value = 0.001 and the habit of eating sweet foods also has a p value <0.05 with a p value = 0.000. This shows that these three variables have a very significant effect on dental caries in children. The main cause of dental caries is due to an unhealthy lifestyle, such as eating sweet foods and not brushing your teeth. This unhealthy lifestyle has an impact on dental health. This lifestyle can be influenced by knowledge. If the knowledge of a good lifestyle is understood, then the nature of people will change and make themselves live with a better lifestyle.

Research conducted by Kabar, et al., (2019) which conducted research on the relationship between mother's knowledge and dental caries in children stated that there was a relationship. In the statistical calculation, the value of p <0.05 with a value of p = 0.031. This research was conducted in Tripoli, Libya. The results of this study indicate that many mothers have less knowledge about dental and oral health. In their child's dental check-up, they

also had high cases of dental caries. Only 10.2% of the research sample had good knowledge. Whereas mother's knowledge has a big impact on children's dental health. Children under 12 years of age spend most of their time with their mothers, so this time is important to teach children how to take care of their own teeth and mouth.

Research conducted by Rompis, et al., examined the variables of mother's knowledge related to dental caries in children. This study shows that knowledge has no relationship with dental caries in children. Statistical results show that the p value> 0.05 with a p value = 0.270. Mother's knowledge is important in maintaining children's dental health, but mother's knowledge is not the only factor that can affect dental caries in children. There are many other factors that cause caries, such as eating sweet foods, not brushing your teeth regularly, or not brushing your teeth properly.

In the research conducted by Sukarsih, et al (2018) regarding maternal knowledge and dental caries, there is no relationship. These results are the same as the research conducted by Rompis, et al., (2016). The p-value in this study was more than 0.05 with p=1,000. Knowledge does not directly change a person's behavior. Although someone has good knowledge about dental health, it does not necessarily change a person's behavior and attitudes. So it is necessary to conduct more routine socialization to realize the importance of maintaining dental and oral health.

Research conducted by Sun, et al. (2017) conducted a study on the relationship between maternal knowledge and dental caries in children. In the research on mother's knowledge showed that it has related to the p value < 0.05 with p value = 0.023. The mother's education level has a p value of <0.05 with a p value of 0.033. Mother's knowledge has a p-value of less than 0.05 with a value of 0.016. This research shows that there is a relationship between mother's knowledge and mother's education level with dental caries in children.

In Luz's research, et al., (2020) examines knowledge, education level, family income and marital status of parents whether they are still married or divorced. This study shows that knowledge has no relationship with dental caries, with a value of p>0.05 with p=0.72. Education level also has no relationship with dental caries with a value of p> 0.05 with p = 0.594. Meanwhile, family income has a relationship with dental caries in children with p value <0.05 with p value = 0.001. For family marital status has no relationship with dental caries with a value of p> 0.05 with p = 0.774. This study shows that several variables have no effect on dental caries. This is because there are other factors that can cause caries,

In a study conducted by Alkhtib, et al., 2018 examined mother's knowledge, behavior and attitudes. In this study, the mother's age with p value> 0.05 with p = 0.133 which stated that there was no relationship. The mother's education level variable showed p>0.05 with p=0.651. This means that in this study mother's knowledge was not related to dental caries in children. Meanwhile, the variable of parents having brought their children to the dentist had results that were associated with a p value <0.05 with p = 0.011. Dentists recommend regular visits to the dentist at least every 6 months. In the study above, it was stated that taking children to the dentist had significant results. Knowledge about dental health that mothers know does not necessarily change people's attitudes and behavior.

Research by Bramantoro, et al., (2020) examines the level of education, frequency of visits to the dentist and oral habits. From the research we can get the level of education does not show significant results. The frequency of visits to the dentist also showed results that were not related to the value of p> 0.05 with p = 0.077. While the oral habit has a relationship with dental caries in children with a value of p <0.05, the result of p = 0.000.

Research Cianetti, et al., (2017) conducted a study on the education level of parents, family income and visits to the dentist. The results showed that children with higher caries tend to have mothers with lower levels of education, fathers with lower education and lower family incomes as well.

Research conducted by Chala, et al,. (2018) investigated the education level and behavior of mothers. In this study, the mother's education level had a relationship with dental caries with a p value of <0.05, namely p = 0.001. For the variable mother having a job also has a relationship with dental caries with p<0.05, which is 0.005. Work does take up a lot of time. For mothers themselves, having work at home such as preparing meals and doing other housework, plus office work. This allows mothers to have less time with their children. So that children's dental health matters are not taken care of, such as reminding them to brush their teeth, accompanying and teaching brushing teeth properly, or choosing foods that are good for their dental health.

Research conducted by Dieng, et al. (2020) examined various variables. At the level of education has a relationship with dental caries with a value of p <0.05, namely p = 0.0001. Maternal age does not have a relationship with child dental caries because the results of the study showed p>0.05, namely p = 0.435. For mother's behavior in maintaining dental and oral health has a relationship with dental caries in children with a value of p <0.05, namely p = 0.0001.

In a study conducted by Susi, et al. (2020) conducted research on maternal education level, number of children and mother's occupation. The results of the study show that the three variables do not have a relationship between the three. Mother's knowledge has a value of p> 0.05, which is 0.103. The number of children did not have a relationship with dental caries in children with a value of p> 0.05, namely p = 0.801. Mother's occupation also has no relationship with children's dental caries with a value of p> 0.05, namely p = 0.113.

V.   CONCLUSION

1. In the mother's knowledge variable, it was found that there was a relationship between mother's knowledge and dental caries in children. Mothers who have good knowledge tend to reduce the risk of dental caries in children by 2.14 times compared to mothers with poor knowledge.

2. In the education level variable, it was found that there was a relationship between the mother's level of education and dental caries in children. Mothers who have a high level of education tend to reduce the risk of dental caries in children by 1.70 times compared to mothers with low levels of education.

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