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Difference of Knowledge Level on Mothers before and after Education of Caries Severity on Children Aged 5-6 Years Old (Research held in Tallo subdistrict of Pannampu Rt/Rw004/001 City of Makassar).

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Background: One of the problems that often happens on incicivus is the problem of dental cavities or dental caries. The caries gets wider, spreads faster, and worsens because of the habit of sweet foods consumption. Further, it occurs because of imbalance maintenance of dental and mouth hygiene. Many cases of caries on children are due to lack of parents' knowledge, especially the mother as the closest person to children on correct dental care selection. The mothers' knowledge in health care gives a significant effect towards the children's attitudes and behaviours. The samples were the mothers who have children under 5 to 6 years old. **Objectives**: To determine the level of mothers' knowledge before and after education on caries severity on the children of 5 to 6 years old. **Materials and methods**: This research was analytic observation using cross-sectional method. The research populations were the mothers who have children aged in 5-6 years old. **Results**: There are differences in the level of mothers' knowledge before and after education using Chisquare test analysis. The result of P-value is 0.000. **Conclusion**: The research found the difference level of mothers' knowledge before and after educationon the caries severity.

Keywords: *mothers' knowledge level, caries severity, education*

PRELIMINARY

Teeth are one of the body's organs that are important for the function of mastication, speech and aesthetic function or appearance. As a person ages, existing teeth are susceptible to various disorders or problems. One problem that often occurs in teeth is the problem of cavities or dental caries.Dental caries occurs due to a number of factors (multiple factors) that influence each other namely three main factors namely teeth, saliva, microorganisms and substrate and time as additional factors. These four factors are described as a circle, if the four factors overlap, dental caries will occur. [1,2]

According to data (Riskesdas) in 2018 shows the percentage of the proportion of dental problems in the population of Indonesia in South Sulawesi amounted to 55.5% and the prevalence of active caries in Indonesia, especially in children aged 5-6 years as much as 92.6%.This indicates that the damage tooth teeth spread faster, expand, and are more severe due to the habit of consuming sweet foods, and are not matched by maintenance of oral and dental hygiene also being the cause of a child's oral hygiene is worse and has many tooth decay. Lack of knowledge of children regarding the maintenance of teeth and mouth into consideration why children are still very dependent on adults.[3]

This research was conducted based on the location determined in Tallo Subdistrict, Panampu Village Rt / Rw004 / 001 Makassar City. Explaining the area, which has a fairly high caries severity. Previous researchers have made preliminary observations to support the

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reasons for researchers to make the place a place of research in accordance with the research to be conducted.In addition, the area is also the average parent who has children tend to ignore the condition of the oral cavity in their children, some of them have quite high education but do not apply it to their children. Enough knowledge obtained by parents does not make the reason parents are responsible for the health of the child's oral cavity. This results in caries that can be handled early but can cause caries to become more severe.which is true for children, especially school-age children. [2]

Knowledge of mother who is the closest person to the child in health care has a significant influence on children's attitudes and behavior. Kindergarten age children generally do not know and have not been able to maintain the health of their oral cavity, so parents are responsible for educating them properly. According to researchers, maternal knowledge of children's dental health greatly influences specifically on dental health, a lack of maternal knowledge of children's oral and dental health will result in a high prevalence of dental and oral health problems especially regarding dmft where dmft prevalence is based on 2018 RISKESDAS data from ages 5- 6 years reached 0.7% and continued to increase until age 65 and above reached 16.8%. [4,3]

Knowledge is the result of not knowing so knowing and this happens because someone senses a certain object through the five human senses. Knowledge about children's dental health is a must for a mother about the development and growth of good teeth. Knowledge and ability of parents in maintaining children's dental health can affect a number of things, including age, education, socioeconomic status, mass media and environmental information experience. [4]

Level of knowledge according to Notoatmodja S.(1977) which quoted the opinion of Rogers (1974), namely: Awareness (awareness), Interest (interested), Evaluation (weighing), Trial (trying), Adoption. The level of knowledge in the domain, cognitive, includes 6 levels, namely: Know, Understand, Application, Analysis, Synthesis, Evaluation. Measurement of knowledge can be done by interview or questionnaire asking about the contents of the material to be measured from the research subject or respondent. The depth of knowledge desired can be adjusted according to the levels of existing knowledge. [5,6]

According to Putra Fadlil (2011) knowledge measurement can be done by interview or questionnaire asking about the contents of the material to be measured from research subjects or respondents into the knowledge we want to measure can be adjusted to the level of knowledge we want to measure can be adjusted to the level of knowledge includes knowing, understanding, application, analysis, synthesis and evaluation. According to Ircham Machfoedz quoted by Inong Kusunawati (2010) the results of knowledge measurement can be divided into 4 (four) categories, namely: very low categories, if they have a true value <40%. Low category, if it has a true value of 40% - 50%. the category is quite high, if it has a true value of 56% - 75%. high category if it has a true value of 76% - 100%. [6]

Education is a learning process that aims to develop self-potential in students and realize a better learning process. This education aims to develop personality, intelligence and educate participants to have noble character, able to control themselves and have skills. As forHealth Education is an activity aimed at increasing individual health knowledge, at least about managing disease risk factors and clean and healthy living behavior in an effort to improve the health status of participants, prevent the re-emergence of disease and recover disease. Education Aims to increase participants' knowledge, abilities, awareness and understanding of health care and increase physical activity through healthy sports activities. [7,8,9]

Health education media are educational aids used by educators in delivering educational materials or materials. Educational media is more often referred to as a teaching aid that functions to help and demonstrate something in the education or learning process so

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that it can facilitate the recipient in understanding the health messages delivered. The benefits obtained by using the media are: Generate interest in Educational goals, Achieve more targets, Foster motivation to learn because the learning process will be more interesting, Delivering messages through the media will be more easily understood so that learning objectives are achieved, the learning process becomes not boring, providing the opportunity to learn material more effectively because not only listening but also being able to observe,

The type of media is divided into 2, namely print media and electronic media where print media include: Leaflets are a form of delivery of health information through folded sheets, Booklets are a medium for delivering health messages in the form of writing and pictures, Flip charts are a medium for delivering messages or information health in the form of a book where in each sheet contains a picture demonstration and turning sheet contains a sentence as a health message related to the picture. Electronic media include: Video and film strips of the advantages of counseling with this media is that it can provide reality that may be difficult to record again by the eyes and minds of the target, can trigger discussions about attitudes and behaviors, effective for targets with relatively important amounts that can be repeated,

Dental caries is a disease of hard tooth tissue, namely enamel, dentin and cement, which is caused by microorganisms in a carbohydrate that can be shared. Dental caries are formed due to food scraps attached to the teeth, the process is gradual and continues to develop goto the teeth. The etiology of caries is influenced by intrinsic and extrinsic factors. Where intrinsic factors are internal factors such as plaque on tooth surfaces that contain lots of bacteria that can cause caries, and extrinsic factors are external factors such as how to brush teeth and the education of parents. [10,11,12]

The occurrence of caries can be caused by several types of food carbohydrates such as sucrose and glucose, can be shared by certain bacteria and form acids so that the pH of the plaque will decrease to below 5 within 1-3 minutes. The repeated decrease in pH will result in the demeneralization of the vulnerable tooth surface and where the caries process beginsEmail demineralization is the destruction of dental hydroxyapatite which is the main component of enamel due to chemical processes. The condition of enamel demineralization occurs when the pH of the solution around the enamel surface is lower than 5.5, (generally the pH of soft drinks ranges from 2.3 to 3.6). After that the remineralization process occurs where remineralization of enamel is when the apatite crystals form again on the surface of the enamel, so that enamel hardness decreases due to demineralization can increase again. [13]

Signs and symptoms of caries that usually occur according to Tarigan (2004), among others, is a sign, where there are white spots such as chalk on the surface of the teeth, visible holes in the teeth, black color at the initial caries stage. The symptoms are often painful when caries reaches the dentin, throbbing pain in the teeth to the head, arises pain when exposed to cold water and food intake, especially at night, if there is severe inflammation will occur. [14]

Dental caries treatment depends on how big the level of tooth decay. Lifting materials used are various, for example composite resin, glass ionomer cement, compomer and amalgam.In addition to the restoration of treatment in other dental cariesPulpal conservative treatment is a treatment performed on the pulp that is only limited to the pulp chamber including pulp capping and pulpotomy. [15,16]

The severity of dental caries can be determined using the PUFA / pufa index where this index is an index to assess the severity of dental and oral diseases due to caries that is not handled properly.This index is assessed based on pulp involvement (P / p), the presence of ulceration (U / u) due to residual roots, the presence of a phlegm (F / f) and whether there has been an abscess (A / a). The criteria of the PUFA / pufa index are: P / popen pulp chambers are visible or when the crown structure of a tooth has beendestroyed by the caries process and

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only tooth fragments or roots are left, U / u Ulceration resulting from sharp edges of teeth, teeth that experience dislocation with the involvement of pulp or root fragments and cause trauma to surrounding tissue, such as the tongue and buccal mucosa Fistula, assessed when there is fluid coming out of the sinus tract due to teeth with pulp involvement, A / a abscess associated with teeth with pulp involvement. [17]

RESEARCH METHODS

The design of this study uses analytic observational research and this study is included in the cross-sectional study design conducted in Tallo Subdistrict, Pannampu District Rt / Rw004 / 001 Makassar City in October-November 2019. Samples used in this study were 36 mothers as respondents with a purposive sampling method in accordance with the criteria that researchers determine. Data processing using SPSS version 23 using Wilcoxon test.

RESEARCH RESULT

This research was conducted in Tallo Subdistrict, Pannampu Rt / Rw004 / 001 Makassar City in 2020. Respondents were 36 people. This study used a questionnaire twice, namely before and after the education about the severity of caries using the pufa index by previously giving informed consent to respondents.

This study aims to determine the level of maternal knowledge before and after education about caries severity in children aged 5-6 years.

All subsequent research results were collected and recorded, and data processing and analysis were carried out using the SPSS version 23 program (SPSS Inc., Chicago, IL, USA). The results of the study are displayed in the distribution table as follows.

Table 1. Mother's prior knowledge level about caries severity in children aged 5-6 years.

Knowledge	f	%
Low	4	11.1
High enough	11	30.6
High	21	58.3
Total	**36**	**100**

Table 1 shows the level of knowledge of the mother before providing education about the severity of caries in children aged 5-6 years. Where the low level of knowledge shows the number 4 or 11.1%, the level of knowledge is quite high shows the number 11 or 30.6% and the high level of knowledge indicates the number 21 or 58.3%.

Table 2. Mother's level of knowledge after education about caries severity in children aged 5-6 years.

Knowledge	f	%
Low	0	0

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High enough	0	0
High	36	100
Total	**36**	**100**

Table 2 shows the level of maternal knowledge after providing education about the severity of caries in children aged 5-6 years. Where the level of knowledge is low and high enough shows the number 0 or 0% while the high level of knowledge shows the number 36 or 100% ..

Table 3. Differences in the level of maternal knowledge before and after education about caries severity children aged 5-6 years.

Educational Giving	**Knowledge**								
	Low		High enough		High		Total		*p-velue*
	f	%	f	%	f	%	f	%	
Before	4	11.1	11	30.6	21	58.3	**36**	**100**	**0,000**
After	0	0	0	0	36	100	**36**	**100**	

Wilcoxo

n: p <0.05: significant

Table 3 shows differences in the level of maternal knowledge before and after the provision of education about the severity of caries in children 5-6 years. In the table shows the highest percentage of maternal knowledge before being given education is high at 21 or 58.3%, then the level of knowledge is quite high at 11 or 30.6% and low at 4 or 11.1%. But after the provision of education to mothers the increase in knowledge was greatly increased so as to obtain the highest number at a high level of knowledge of 36 or 100%. Based on the results of tests using the Wilcoxon test p-value results obtained for 0,000, which means α <0.05, this shows that there is a significant increase in maternal knowledge about the severity of caries before and after education.

DISCUSSION

This study also has a relationship at the level of education of these mothers, where there are some mothers who have children aged 5-6 years who only have knowledge of achieving high school education. This is the factor that influences the insights of low knowledge of mothers.

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Some mothers who have children of this age are also less concerned and tend to ignore dental and oral health problems in their children. However, the results of research conducted that the presentation of the knowledge of the mother has a pretty good knowledge, but this is not in line with the conditions that occur in the condition of dental health in children, especially regarding caries problems. This is a predisposing factor that affects the mother is not able to apply the knowledge she has to the handling or prevention of dental health problems in children.

In addition, the desire of mothers who still do not understand and are aware of the importance of dental and oral health problems that will affect the state of the function of the teeth between the functions of mastication (chewing), phonetics (speaking) and most importantly the aesthetic function (appearance). Mothers in this case are not aware of the psychological impact that will occur for the survival of adolescents or adults of children who have experienced tooth decay problems.

Based on the results of research Munifa (2018) said that the level of knowledge of the mother needs to be increased again. The level of maternal knowledge in this study can be derived from information obtained by mothers about oral and dental health not only obtained in formal education, but information from counseling, electronic media, print media and social media can only increase the knowledge of mothers as the closest parents with child. In addition to knowledge, which affects children's dental health. Parents' initiatives in this matter play an important role in efforts to prevent dental disease in children as well as promotive to existing dental health problems. [18]

Generally, children who are just entering school age have a high caries risk, because at this school age children usually like snacks and drinks as they wish. Caries disease in many children and often occur but do not get the attention of parents with the assumption that the child's teeth will be replaced by permanent teeth. Many current caries occurrences are due to a lack of parental knowledge about choosing the right type of food and dental care for school-aged children. Parenting patterns especially parents play an important role in changing bad habits for children's health. Attitudes, behaviors and habits of parents are always seen, valued and imitated by their children who then consciously or unconsciously will be absorbed and become a habit for their children. [4]

Dental health education provided by mothers to children from an early age is very important to increase knowledge about risk factors for dental and oral diseases. A mother should have good knowledge, attitude and behavior towards oral health in order to provide oral health education to children.

Knowledge is the basis for the formation of an action. Someone said to lack knowledge if in a condition a person is unable to recognize, explain and analyze a situation. Many parents still think that deciduous teeth are less important, because they are temporary and will be replaced by permanent teeth which will normally be in the oral cavity forever. This assumption is certainly very wrong considering the role and function of deciduous teeth. [19, 20, 21, 2, 23, 24]

CONCLUSION

Based on the results of research on differences in the level of maternal knowledge before and after education about the severity of caries in children aged 5-6 years can be concluded as follows:

1. The level of knowledge of the mother before education about the severity of caries in children aged 5-6 years is categorized high at 58.3%, quite high at 30.6%, and low at 11.1%.
2. The level of maternal knowledge after education about the severity of caries in children aged 5-6 years is categorized high by 100%, quite high by 0%, and low by 0%.

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3. Based on the Wilcoxon test results obtained p-value of 0,000 which means $\alpha < 0.05$. thus Ha is accepted and Ho is rejected. this shows that in this study there was a significant increase in maternal knowledge about the severity of caries before and after education.

SUGGESTION

1. Through this research counseling can be done to mothers about the importance and how to preventive dental and oral health care for children from an early age.
2. The researcher also suggested to the local kelurahan to collaborate with dental health officers with posyandu so that they can educate mothers who still lack experience and understanding of the importance of dental care for children.
3. The researcher suggests to the next researcher to develop this research, taking into account environmental factors and other factors.
4. Parents also need to play an active role in getting children used to brush their teeth regularly from an early age and bring children to dentistry for routine dental examinations.
5. Increasing the mother's knowledge about recognizing the general symptoms of early cavities, the recommended use of toothpaste for children and the knowledge of fluoride.

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