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THE RELATIONSHIP OF COMPLEMENTARY FEEDING AND NUTRITIONAL STATUS OF AGES 6 – 24 MONTH IN ABIANSEMAL I PUBLIC HEALTH CENTER

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Abstract: **Malnutrition has been directly or indirectly responsible for 60% of the 10.9 million deaths each year among children under five. More than two-thirds of these deaths, which are often associated with inappropriate feeding practices, usuall occur during the first year of life. Below than 35% of babies worldwide are given breast milk exclusion during the first four months of life; complementary feeding often starts too early or too late, and nutritious food is inadequate and unsafe. One factor that can affect nutritional status is food intake. A person's nutritional status is a frame of the food they consume. Children aged 6-24 months receive adequate nutrition from breast milk and complementary feeding.**

Method: this study used a cross-sectional approach that took place at the Abiansemal I Community Health Center. After calculating using the consecutive sampling formula, 46 samples were obtained. 46 samples that meet the inclusion criteria will be measured by the child's weight and height and fill in the questionnaire listed.

Results: Normal nutritional status mostly found in the proportion of home complementary feeding with the total of 38 people. Normal nutritrional status also found in the proportion of home breasteeding supplementary feeding with the total of 29 people. Proportion of giving the complementary feeding at the age of > 6 months, the result mostly normal nutrirional status with the total of 40 people. Proportion of giving the complementary feeding with 2-4 times a day will mostly turned out to be normal nutrinional status with the total of 33 people.

Conclusion: there is an insignificant relationship between the provision of complementary feeding for the first time and ongoing with the nutritional status of children aged 6-24 months. And there is a significant relationship between the time of administration and the frequency of complementary feeding administration with the nutritional status of children aged 6-24 months..

Keywords: **complementary feeding, nutritional status, children.**

I. INTRODUCTION

In the period of 6-24 months of age the development of language skills, creativity, social awareness, emotional and intelligence goes very fast and is the cornerstone of subsequent developments[1]. This period is often termed the golden period. The golden period can be realized if during this period infants and children obtain appropriate nutrition for optimal growth and development. Conversely, if babies and children at this time do not get food according to nutritional needs, then the golden period will turn into a critical period that will interfere with the growth of the baby and child[2].

Complementary feeding are transitional foods from breast milk to family foods with certain nutritional content that is given to babies aged 6 months or more because breast milk no longer fully meets the nutritional needs of infants[3]. If possible giving complementary feeding should be made from local Ingredients. As for the benefits in the form of introduction of food ingredients that come from the surrounding environment as well as the complementary feeding given must be easily digested and in accordance with the age and nutritional needs of the baby[4]. Good complementary feeding is made from fresh food ingredients such as tempeh, beans, chicken eggs, chicken liver, vegetables and fruits[5]. Complementary feeding may be given to infants after 6 months of age. Providing complementary feeding that is done too early can cause a reduction in milk production. This is caused by the baby's stomach size which is still small, so it is easily full, while the nutritional needs of the baby have not been met. As a result, the process of growth and development of the baby will be disrupted[6]. The benefits of giving complementary feedings helping babies in the learning process of eating, providing opportunities to instill good eating habits, filling the gap between total nutritional needs in children with the amount given from breast milk. Whereas the purpose of giving complementary feeding is to add energy and nutrients needed by infants because breast milk can no longer meet the needs of infants continuously. As a complement to breast milk so that children get enough energy, protein and other nutrients such as vitamins and minerals[7]. As for the 4 requirements for complementary feeding according to WHO are: timely, adequately, safe and properly[8].

Nutritional status is a measure of a person's body condition which can be seen from the food consumed and the use of nutrients in the body[9]. Normal nutritional status is a measure of nutritional status in which there is a balance between the amount of energy that enters the body and energy released from outside the body according to individual needs. Energy that enters the body can come from carbohydrates, proteins, fats and other nutrients[10]. Poor nutritional status or what is commonly called undernutrition is a person's nutritional condition where the amount of energy entering is less than the energy that should be expended. This can occur because the amount of energy entering is less than the recommended individual needs[11]. While overnutrition is a person's nutritional condition where the amount of energy that enters the body is greater than the amount of energy expended. This can occur because the amount of energy that enters exceeds the energy adequacy recommended for individuals, ultimately excess nutrients are stored in the form of fat which can cause a person to become fat[12]. Nutritional status can be measured in various ways, one way of direct assessment is by using antopometry. As for the factors that can affect nutritional status are nutrient intake, infectious diseases, household food availability, mother / child care behavior, health services and the environment[13].

II. METHODOLOGY

This study is a analytic cross-sectional study. The collected data is primary data was obtained by giving questionnaire to parents with children aged 6 – 24 month. This study was performed in the Abiansemal Health Center I in July to November 2019. Then the data processes by SPSS version 24.

III. RESULT AND DISCUSSION

A. Result

Based on the characteristics of the sample, most of the samples had Bachelor's degree of 24 people (52.2%) with the sample employment status being mostly private employees (43.5%). Most of the samples were male with a total of 24 people (52.2%).

Table 1: Characteristics of Research Respondents

Mother's age (years) (Rerata ± SD)	27,15 ± 3,17
Mother's education level (n) (%)	
Middle school	1 (2,2)
High school	19 (41,3)
S1	24 (52,2)
S2	2 (4,3)
Occupation of mother's (n) (%)	
Teacher	3 (6,5)
Housewife	5 (10,9)
Merchant	1 (2,2)
Bank employees	2 (4,3)

Private employees	20 (43,5)
Farmers	1 (2,2)
Civil servants	12 (26,1)
Bank tellers	1 (2,2)
enterpreneur	1 (2,2)
Age of baby (month) (Rerata ± SD)	13,87 ± 4,34
Gender of baby (n) (%)	
Male	24 (52,2)
Female	22 (47,8)
Baby's birth weight (kg) (Rerata ± SD)	3,01 ± 0,24
Current weight (kg) (Rerata ± SD)	9,42 ± 1,82
Baby's birth body length (cm) (Rerata ± SD)	44,40 ± 2,89
Current body length (cm) (Rerata ± SD)	74,78 ± 6,26
Weight per height (Rerata ± SD)	16,80 ± 1,90

Then from 46 samples based on the age distribution of mothers, have an average age of 27.15 with a standard deviation of 3.17. Then based on the age of the baby has an average age of 13.87 with a standard deviation of 4.34. Based on the baby's weight at birth has an average of 3.01 with a standard deviation of 0.24. Based on the baby's weight it currently has an average of 9.42 with a standard deviation of 1.82. Based on the length of the baby's body at birth has an average of 4.40 with a standard deviation of 2.89. Based on the baby's body length currently has an average of 74.78 with a standard deviation of 6.26. Based on the weight per height the baby has an average of 16.80 with a standard deviation of 1.90.

Table 2: Cross Tabulation

Variable	Nutritional status				
Giving complementary feeding	**Malnutrition (n) (%)**	**Normal (n) (%)**	**P**	**IK95%**	**PR**
Type of first time for complementary feeding					
Factory-made foods	2 (40,0)	2 (33,3)	0,059	0,827-30,192	4,200
Home made foods	1 (2,4)	38 (95,0)			
Type of ongoing for complementary feeding					
Factory-made foods	5 (14,7)	29 (85,3)	0,748	0,229-13,622	1,765
Home made foods	1 (8,3)	11 (91,7)			
Timing of complementary feeding					
<4 month	2 (100,0)	0	0,000**	-	-
6 month	2 (100,0)	0			
> 6 month	2 (4,8)	40 (95,2)			
Frequency of complementary feeding					
< 2 times	1 (33,3)	2 (66,7)	0,042*	-	-
2-4 times	4 (10,8)	33 (89,2)			
>4 times	1 (16,7)	5 (83,3)			

Based on table 2 the results of cross tabulation were obtained in children aged 6-24 months who got the first type of complementary feeding in the form of factory-made food as many as 2 children (40.0%) experienced malnutrition and as many as 2 children (33.3%) had nutritional status quite normal. Whereas for children aged 6-24 months who got the first type of complementary feeding in the form of home food, 1 (2.4%) experienced malnutrition and 38 children (95.0%) had normal nutritional status.

In children aged 6-24 months who get the type of complementary feeding currently in the form of factory-made food as many as 5 children (14.7%) experienced malnutrition and as many as 29 children (85.3%) had normal nutritional status. Whereas in children aged 6-24 months who get the type of complementary feeding currently in the form of home food as much as 1 child (8.3%) is malnourished and as many as 11 children (91.7%) have a normal nutritional status.

Based on the tabulation results obtained in children aged 6-24 months who get the time of giving complementary feeding <4 Months and 6 Months all have nutritional status that is classified as abnormal or malnutrition as much as 2 children each (100.0%). Whereas for children aged 6-24 months who received complementary feeding > 6 months as many as 2 (4.8%) experienced malnutrition and as many as 40 children (95.2%) had normal nutritional status.

Based on the tabulation results obtained in children aged 6-24 months who get the frequency of complementary feeding <2 times as many as 1 person (33.3%) experienced malnutrition and 2 people (66.7%) had normal nutritional status. In children aged 6-24 months who received the frequency of complementary feeding 2-4 times as many as 4 people (10.8%) experienced malnutrition and 33 people (89.2%) had normal nutritional status. Whereas in children aged 6-24 months who get frequency of complementary feeding > 4 times as many as 1 person (16.7%) experienced malnutrition and 5 people (83.3%) had normal nutritional status.

B. Discussion

This study uses the chi square test, where the value of p <0.05 has a significant meaning and if the value of p <0.01 indicates very significant. In this test, the p value for the first time complementary feeding type and the on-going complementary feeding type are 0.059 and 0.7487, respectively, indicating that the first time complementary feeding and on-going has no significant relationship with nutritional status. Then the p value on the complementary feeding delivery time variable obtained a result of 0,000 which indicates that there is a very significant relationship with nutrition status. Based on the results of interviews conducted at the Abiansemal Health Center, at the time of giving complementary feeding who suffered malnutrition as many as 4 people. The reason mothers give complementary feeding too early is because children often cry interpreted as a sign of hunger. In addition there are local cultural factors or family traditions that assume that breastfeeding alone is not enough to meet the needs of the baby so they decide to give complementary feeding when the baby is ≤ 6 months old. As you can see, the digestive system of children under 6 months is not yet relatively perfect. This causes the digestive system of children to be infected and children easily attacked by diseases. Next, the variable of complementary feeding frequency gives a p value of 0.042 which indicates that the frequency of complementary feeding has a significant relationship with nutrition status.

IV. CONCLUSION

An insignificant relationship was obtained between the provision of complementary feeding for the first time and on going with the nutritional status of children aged 6-24 months. There is a significant relationship between the time of giving complementary feeding with the nutritional status of children aged 6-24 months with a strong relationship based on the moderate correlation coefficient. There is a significant relationship between the frequency of complementary feeding and nutritional status of children aged 6-24 months with a strong relationship based on the relatively low correlation coefficient. This research can provide an overview to related parties such as the health department in planning programs or strategies in an effort to improve health services for children with poor nutrition.

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