

Relation Between The Level of Mother's Knowledge about Complementary Foods with Nutritional Status of Children Aged 6-24 Months

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Abstract: Complementary Food is additional foods that are useful for supplementing breast milk. Mother's knowledge about complementary foods is very important, because it is very influential for children's growth and development. The purpose of this study is to prove whether there is a relationship between the level of maternal knowledge of complementary foods and the nutritional status of children. Frequency of respondents mostly had the high knowledge about complementary foods (86%) and under nutrition of children aged 6-24 month (14%). This analytic observational research with cross-sectional design was conducted using consecutive sampling method. Chi square test results show the value of $p = 0.005$ with confidence interval 95% (CI= 0,11-3,89) so that it can be concluded that there is a relation between the level of maternal knowledge about complementary foods with the nutritional status of children aged 6-24 months. Risk for mothers with less of knowledge about nutrition to have children with undernutrition is 0,67 times.

Keywords: Complementary food, knowledge, Nutritional Status, Children.

I. INTRODUCTION

Breast milk is the first food that is given by mother to their children at the beginning of life, but breast milk only able to sufficient the nutritional needs of children until 6 months old. As the children get older and gain weight, milk production of mothers will decrease as the child's nutritional needs increase^[1]. To cover these nutritional needs, children must be given the complementary foods from 6-24 months old of aged to achieve the optimal growth and development. Nutritional status is a condition caused by a balance between nutritional intake and nutritional needs. Nutritional status of children is one of indicator that determines the level of human well-being^[2]. Nutritional status is influenced by food consumption and physical activity. In addition, it is also influenced by the knowledge and pattern of giving the complementary foods. Mother's knowledge about the complementary foods in children aged 6-24 months must be appropriate. Giving of complementary foods that is too early, too late, not enough or lacking, and improper way of giving complementary foods can cause children to have the nutritional problems, especially disorders of growth and development^[3].

The World Health Organization (WHO) and the United Nations Children's Fund state that the stunting rate globally has decreased. In 2016 children with stunting were 22.9%. Unlike the case with children who are overweight by 6%. While those who suffer from wasting as much as 7%^[4]. Indonesia is one of country with a considerable amount of malnutrition. Based on the results of the Indonesian's Basic Health Research in 2018 children with underweight as much as 17.7%, stunting as much as 30.8%. While children who experienced wasting of 10.2%. The number of children under five with obesity decreases every year, in 2013 as much as 11.9% and decreased to 8% in 2018^[5]. The results of previous studies regarding the level of knowledge of mothers and the provision of complementary foods to infant in Jatirejo (a town in Indonesia) stated that most mothers aged less than 30 years (51%), were educated (67%), housewives (91%), had less knowledge about complementary foods (50%), giving early complementary foods (55%), and giving complementary

foods in an unfavorable way (57%)^[6]. It means that the nutritional status of children depends of the mothers knowledge which means it closely related to mother's jobs and education.

Giving complementary foods to children aged 6-24 months is something good, because it has a positive impact on the growth and development of the children themselves. The complementary foods will complement the nutritional needs of children who are lacking in breast milk in other words will add energy and nutrients needed^[7]. By giving the complementary foods, children will also be able to develop their ability to accept a variety of food textures. So that they will automatically get used to it. Besides that, children will also be able to develop their ability to chew and swallow food slowly. Giving complementary foods will also educate children to get used to eating healthy foods and liking food according to the needs of the^[8].

Causing factors of malnutrition in accordance with the results of research conducted in various regions in Indonesia which states that most of the occurrence of malnutrition is caused by mothers lack of knowledge about the pattern of giving the complementary foods. So the purpose of this research is to prove that to prove whether there is a relationship between the mother's knowledge of complementary foods and the nutritional status of children.

II. METHODOLOGY

This research is an analytic observational study with a cross-sectional design, where data regarding independent and bound variables are collected at the same time. It has been carried out in the community health center of West Denpasar from June-August 2019. The sampling technique was carried out using a consecutive sampling method, where subjects in the sample population conform the inclusion criteria. Subjects with inclusion criteria were all mothers who have children aged 6-24 months in community health center of West Denpasar. Subjects who met the inclusion criteria without exclusion criteria were given an explanation of the aims and objectives of the study and asked to approved the inform consent by signing if they agree to did interview. The measuring instrument used was a questionnaire containing mothers and children data. The analysis used was bivariate analysis using chi square to find out the relationship between variables.

The tool used in processing data to determine nutritional status is with WHO anthro program. Statistical tests used to see the frequency of respondents' characteristics and to data analysis with SPSS (Statistic Program for Social Science) computer peripheral tools.

III. RESULT AND DISCUSSION

3.1 Characteristics of Respondents

Description of the frequency characteristics of mothers who have children 6-24 months old visiting community health center of West Denpasar on June-August 2019 can be seen in the following table :

Table 3.1: Characteristics of mothers with children 6-24 months in Community Health Center of West Denpasar

Variable	Amount (n= 50)	Presentage (%)
Age of Mothers		
17-25 years old	16	32
26-35 years old	27	54
36-45 years old	7	14
Level of Education		
Elementary School	3	6
Junior High School	12	24
Senior High School	24	48
Academician	11	22
Jobs		
Housewife	37	74
Employee	13	26
Sex of Children		
Male	22	44
Female	28	56

Based on the table above, majority of mothers who have children 6-24 months old were in productive age 54%, mothers with level of education senior high school 48%, and had job as housewife 74%. Mostly children who come to this health center were female 56%, while male 44%.

3.2 Mother's knowledge and Nutritional Status of Children

Distribution of mother's level of knowledge about the complementary foods and frequency of nutritional status of 6-24 months old children can be seen in the following table :

Table 3.2: Frequency of mother's level of knowledge and nutritional status of children aged 6-24 months

Variable	Amount (n= 50)	Presentage (%)
Level of Maternal knowledge		
High	43	86
Less	7	14
Nutritional Status of Children		
Normal	43	86
Undernutrition	7	14

Based on the table above, most of mothers who have children aged 6-24 months who go to the community health center of West Denpasar have a high level of knowledge (86%) and most children have good nutritional status (86%).

Knowledge is something that is obtained from various sources in forming an action. Not only obtained from school, but can be obtained from daily life experiences, especially knowledge about nutrition. Mothers with insufficient knowledge will choose the foods that are most appealing to the senses and certainly not based on nutritional value^[9]. Mother's knowledge is closely related to the nutritional status of children where is a condition caused by a balance between nutritional intake and nutritional needs.

3.3 Bivariate Analysis

This analysis used to find out the relationship between independent and dependent variables. In this case, testing the hypothesis whether there is a relationship between the level of maternal knowledge about complementary foods with nutritional status of children aged 6-24 months. Statistical tests have been carried out in the form of Chi-Square test with SPSS program where the degree of confidence is 95% ($\alpha = 0.05$). The result of this analysis can be seen in the following table :

Table 3.3: Analysis of the relationship between the level of mother's knowledge and nutritional status of children aged 6-24 months in community health center of West Denpasar.

Level of knowledge	Nutritional Status				p
	Normal		Undernutrition		
	n	%	n	%	
High	40	93,0	3	7,0	0,005
Less	3	42,9	4	57,1	
Total	43	86,0	7	14,0	

Based on the table above, number of maternal respondents collected in this study were 57 people. Of the 50 respondents who met the inclusion criteria. In this analysis conducted using the Chi-Square test by analyzing the relationship between the level of mother's knowledge about complementary foods and the nutritional status of children aged 6-24 months, the value of $p < 0.05$ with $p = 0.005$ was obtained. This shows that there is a relationship between the level of maternal knowledge about complementary foods with nutritional status of children aged 6-24 months in community health center of West Denpasar. Other than that the confidence interval shows (CI 95% = 0,11-3,89).

This is also supported by the results of a study conducted by Susilowati & Himawati on 2017 who examined the relationship of mother's knowledge with the nutritional status of children in community health center of Gajah I Demak. In that study it was stated that 44 respondents (83.01%) were well-informed by having children who were of good nutritional status. While as many as 19 people (45.23%) mothers with insufficient knowledge have malnourished children.

The relationship between these two variables is proven by the value of p, where in this study the value of $p = 0.006$ which states there is a relationship between maternal knowledge and nutritional status of children^[10].

The mismatch of mother's knowledge with the nutritional status of the child is caused by several things, one of that the mother is unable to provide a variety of foods that fit the needs and can be caused by the attitude and behavior of the mother towards nutrition that is not in line with the knowledge that is known. Increasing science and technology also affects the development of maternal knowledge about nutrition including the complementary foods^[11]. Currently the mother can obtain various information about nutrition in electronic devices that are owned, so that with good knowledge can also increase the value of a child's nutritional status. In this case, mother who lack of knowledge have 0,67 times the risk of having children with undernutrition. In the community health center of West Denpasar no malnourished children were found.

IV. CONCLUSION

Based on data analysis and discussion in this study, the writer can conclude that the writer knows the level of knowledge of the mother both by 86% and less knowledge by 14%. While children who have good nutritional status are 86%. Based on theories, we know that knowledge related to nutritional status. It can be prove after an analysis using the chi-square test obtained p value of 0.005, it can be concluded that there is a relation between the level of knowledge of mothers about complementary foods and nutritional status of children aged 6-24 months in community health center of West Denpasar. Mother who lack of knowledge have 0,67 times the risk of having children with undernutrition. Weakness in this study have not been able to analysed the relationship on each of the confounding variables. It was expected to use more than one analysis so that it can be interpreted better.

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