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THE CORRELATION BETWEEN MOTHER'S KNOWLEDGE, EDUCATION AND FAMILY INCOME WITH NUTRITIONAL STATUS OF TODDLER (AGED 1-5 YEARS)

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ABSTRACT

***Background**: The role of mothers in the growth and development of toddlers is very important. Mothers must know and understand what is needed for that process because this will affect the nutritional status of toddlers. This relates to knowledge, education, and mother's income which will affect the provision of food intake for infants. Nutritional status of children is still one of the problems in the world. The incidence of malnutrition in the world reached 104 million children and malnutrition is one-third causes of child mortality worldwide. Basic Health Research in 2007, the prevalence of toddler malnutrition in Indonesia was 18.4%, an increase from 2013 to 19.6% and decreased again in 2018 to 17.7% in the year.*

***Aims:** To find out the correlation between mothers' knowledge level, education and family revenue with nutritional status of toddler.*

***Methods:** This research used Cross Sectional design, used Accidental sampling techniques. The samples were taken 289 toddlers (1-5 years). The data obtained were analysed using spearman test.*

***Results:** Spearman test results showed there is no significant correlation (p> 0.05) between mother's knowledge level, education and family revenue with nutritional status of toddler.*

***Conclusion:** There is no correlation between mother's knowledge level, education and family revenue with nutritional status of toddler in Kalitanjung Cirebon Health Center.*

***Keywords:** Knowledge level, Mother's education, Revenue, Nutritional status of toddler*

INTRODUCTION

Nutrition is one of the problems faced by the world, especially nutrition for toddlers. Nutritional adequacy for a toddler is very important, because it relates to children's intelligence and growth. Good nutritional status of toddlers also has a great influence in realizing quality human resources in the future. The number of malnutrition in the world reaches 104 million children and the condition of malnutrition is a cause of child mortality by one third of all world deaths. This becomes an important point and

become a global agreement on the Millennium Development Goals (MDGs) that each country should gradually reduce the number of malnourished toddler [1].

Ministry of Health Republic of Indonesia stated that based on the results of Basic Health Research in 2007, the prevalence of toddler malnutrition in Indonesia was 18.4%, an increase from 2013 to 19.6% and decreased again in 2018 to 17.7% in the year. [1,2].

Based on the observation of nutritional status in 2015, Directorate General, Public Health, Ministry of Health Republic of Indonesia, West Java Province became one of the provinces with a high percentage of wasted toddlers, reaching 12.1%. Especially for Cirebon city, with the prevalence of underweight toddlers reaching 4.72% and the prevalence of under-fives with malnutrition reaching 3.31%. Data from the Central Statistics Agency District of Cirebon 2015 Harjamukti be the area with the highest number of children malnutrition reaches 15 children and in second place the District Kejaksan by the number of children severely wasted 12 children [2].
The role of mothers in the nutritional adequacy of a toddler is very important. Mothers need to know what needs to be fulfilled for the growth process of a toddler (1-5 years old). Starting from the consumption of fruits, vegetables, animal protein, vegetable protein and other additional vitamins that are very important for growth and development both physically, meteorically, sensory, and intelligence of toddlers. This is very much related to the level of knowledge of the mother regarding the adequacy of her child's nutrition.

In addition to the role of the mother, the economic status of a family can also affect the nutritional status of children. One of the characteristics of the family is the family income level. Families with middle to lower income levels, allow consumption of food and nutrition in children under five and this affects the nutritional status of toddlers. This research aim to find out the correlation between mother's knowledge level, education and family revenue with nutritional status of toddler [2,3].

METHODS

The type and design of the study used was cross sectional approach conducted at the Kalitanjung Cirebon Health Centre. The sampling technique in this research is accidental sampling with 289 respondents calculated using isac michael table with total population 1600 person . The research samples taken were mothers and toddlers (aged 1-5 years) who participated in the toddler weighing activities in Kalitanjung Cirebon Health Center with the inclusion criteria mothers who have children aged 1-59 months, while the exclusion criteria of women who were not willing to be respondents and toddlers who suffered from chronic illness / were sick. Data was taken using a questionnaire that had been used in previous research and was validated. For maternal knowledge there are 18 nutritional knowledge questions with incorrect answer scores "0" and correct "1".

Statistical analysis

Normality test have been carried out with Kolmogorov Smirnov test for data ratio with the distribution result not normal. Analysis of the data used was the Spearman test because the aims this study to find the correlation where the scale used ordinal and ratio data with an error rate of 5%.

RESULT

Table 1. Respondents' Characteristic

Characteristic's Respondents	Frequency	Percentage
Gender toddler		
Male	157	54.2
Female	132	45.7
Weight toodler		
Respondent's work		
Housewife	259	88.6
Traders	9	3.1
Teacher	2	0.7
Labor	5	1.7
Entrepreneur	17	5.9
Ever least follow counselling		
Never	76	26.3
Ever been	213	73.7

Based on the above table it can be seen that the majority of toddler who become the respondents were male 157 (54.2%) with an average age of 26 months. The average weight of a toddler who was a respondent was 11kg. It can be seen also that the majority of respondents' daily work were housewives with a frequency of 259 (88.6%) and as many as 213 (73.3%) respondents have attended nutritional counselling. Viewed from the table above the 208 (73%) respondents had maximum knowledge score (18).

Table 2. Univariate analysis result

Univariate Analysis	Frequency	Percentage	Mean
Nutritional knowledge			
(number of correct scores)			
9	1	0.4	
10	3	1.1	
11	1	0.4	
12	2	0.7	7.45
13	1	0.4	
14	1	0.4	
15	7	2.5	
16	14	4.9	
17	47	16.5	
18	208	73	
level of education			
not graduating from elementary	17	5.9	
elementary	57	19.7	
junior high school	47	16.3	
senior high school	143	49.5	
graduate.	25	8.7	
Family income			
below the Minimum Wage Rate	182	63.0	
according to MWR	33	11.4	
above MWR	74	25.6	
Toddler Nutrition Status			
severely wasted	4	1.7	
wasted	38	13.1	
good nutrition	239	82.4	
over nutrition	8	2.8	

Viewed from the education of respondents as many as 143 (49.3%) had the level education was senior high school, and the majority of the income of respondents was below the MWR as much as 182 (63%). A total of 239 (82.4%) toddlers had good nutritional status.

Table 3. Mother's Knowledge education, and Family Revenue with Nutritional status Correlation

	Nutritional Status	
	P value	r_s
Mother's Knowledge	0.376	0.53
Education Level	0.724	-0.21
Family Income	0.360	0.54

Based on the results of analysis there was not found a significant correlation between mother's knowledge, education level and family income with the nutritional status of toddlers. In the analysis of correlation between mother's knowledge and nutritional status, the p value of 0.376 was obtained. The spearman significance value of 0.53. Analysis of the correlation between the level of education of mothers and toddlers nutritional status obtained p value 0.724. The value of the spearman conflict of -0.21. The analysis of the correlation between family income and the nutritional status of toddlers obtained no significant relationship with the p value of 0.360 and the value of the spearman comparison of 0.54.

DISSCUSION

Classification of nutritional status based on a standard measure and there are limitations so-called threshold. The standard commonly used is standard havard and the standard World Health Organization-Standard Center of Health Statistics (WHO-NCHS). In this study, the standard used was WHO-NCHS with the data taken by body weight per age where nutritional status was classified into severly wasted, wasted, good nutrition, over nutrition.

From this study, there is no correlation between mother's knowledge level with the nutritional status of toddlers in Kalitanjung Cirebon Health Centers. This is in line with research conducted by Cholifatun Ni'mah and Laylat Muniroh (2015) which states that there is no correlation between the level of knowledge of mothers with wasting and stunting in toddlers with poor families. The research conducted by Hendrayati (2013) also states that there is no correlation between the level of knowledge of mothers about nutrition and the incidence of wasting in infants. Opinions from UNICEF, factors that can affect the nutritional status of toddler can be divided into 2, there are direct and indirect factors. Mother's knowledge is one of the indirect factors that can affect nutritional status. Direct factors that can affect nutritional status are food intake and disease infection, so even though mother's knowledge is good when food intake and there was a history of infectious diseases it can affect the nutritional status of toddlers to be bad. [4,5].

The second results there was no correlation between mother's education level on nutritional status of toddlers in Kalitanjung Cirebon Health Center Cirebon. From this study Research from Cholifatun Ni'mah and Lailatul Muniroh entitled Correlation between Education Levels, Level of Knowledge and Parenting Style with Wasting and Stunting Toddlers with Poor Family Toddlers also stated that there was no correlation between mother's level education with wasting and stunting toddlers with poor families. In this study, mothers had low education levels don't always have toddlers with problems wasted or severly wasted more than the mother with the level higher education. Mother who has knowledge both are expected to be able to apply knowledge in behavior daily. However, a person's behavior is influenced by the level of knowledge is also influenced by other factors, such as socio-economic, socio-cultural, and environment [4,6].

The results of the correlation between family income with the nutritional status of toddlers in the Kalitanjung Cirebon Health Center that there was no correlation between family income level and nutritional status of toddlers This is in agreement with the research of Zaida Rahmania, Ulpa Kulsum Liza Salawati with the title Relationship between Knowledge of Mother and Parents Income with Nutritional Status of Children of SDN 02 Labuhan Haji whose no correlation in the results. This can occur because of the low birth weight, age of weaning, too early feeding, toddler eating patterns, and poor parenting style [7, 8, 9, 10].

The above results show that 58.6% of mothers had a high school level of education (senior high school-graduate) and 41.4% had a basic education level (did not pass elementary - junior high school). There were 23 toddlers who had wasted even though the education level of mothers of toddlers was high, while only 15 toddlers were wasted with basic mother's education level. This illustrates that not necessarily a mother with a higher education level will guarantee good nutritional status of a child. According to Soelaman Joesoef, education can also be obtained from non-formal education. Non-formal education is every opportunity where there is directed communication outside the school and someone obtains information, knowledge, training and guidance in accordance with the age and needs of life, with the aim of developing effective levels of skills, attitudes and values in the family environment, work even the environment of the community and the country [8, 11, 12, 13].

The results of the analysis showed that there were 147 respondents with good nutrition with family income below the Minimum Wage Rate (MWR), 30 respondents with good nutritional according to the MRW, and 62 children with good nutritional status with family income above the MWR. For toddlers with wasted nutritional status, there are 25 respondents under the MWR, and 10 respondents who are above the MWR. There were 7 respondents with severely wasted status had family income below the MWR. From this, it can be concluded that not only income can affect the nutritional status of toddlers. Other factors can also affect the nutritional status of toddlers, such as the number of members in the family. This can affect revenue sharing in meeting the needs of the family, both for food needs or for others. The role of parents themselves in food management is also important in determining the nutritional status of toddlers, not necessarily high income families will be greater in the distribution for food needs [8, 9, 14].

Characteristics of families in fulfilling the needs can be assessed from the level of its income. Families with middle to lower income levels, allow consumption of food and nutrition in toddlers and this affects the nutritional status of children under five. Revenue is one that influences the provision of food for families and especially toddlers. The role of the mother in the nutritional adequacy of a toddler is very important. Mothers must know what must be fulfilled for the development of toddlers. In addition to the role of the mother, the economic status of a family can also affect the nutritional status of toddlers [14, 15].

Income levels can affect the level of consumption of the community. The correlation between income and consumption is a very important thing in various economic problems. The fact shows that consumption expenditure increases with rising income, and vice versa if income falls, consumption expenditure also decreases. The level of expenditure depends on the family's ability to manage revenues or incomes [14].

The finding from this study not found a significant correlation for mother's knowledge level, education and family revenue with nutritional status of toddler in Kalitanjung Cirebon Health Center. This can be caused by other factors that can affect the nutritional status of these toddlers. according to prawirohartono, nutritional problems be affected by two factors, namely direct and indirect factors. the direct factor that can affect nutritional status is food intake and infection. Food is a basic need for human life. Infants and toddlers need food for growth and development. Food given to infants and toddlers must also be adapted to the ability to digest it, so that food that is suitable for their age is needed and contains enough nutrients, namely milk and milk. Likewise with infection, when a toddler experiences a

feeding infection the toddler's appetite will decrease and can affect the nutritional status of a toddler if the condition persists long enough. Whereas for indirect factors that affect the nutritional status of children, namely age of weaning, low birth weight (low birth weight baby), feeding too early, number of members in the family, parenting children [8, 13, 16].

CONCLUSION

This study shows the majority of children under five in Kalitanjung Cirebon Health Center have good nutritional status with 82.4% and only 1.7% of toddler who experience malnutrition. The highest level of mother's education in the Kalitanjung Cirebon Health Center area is high school (49.5%). The results of the assessment of morher's nutrition knowledge, even though 208 respondents had a maximum score (18), there were still 7 respondents with a knowledge score below 13 which could be categorized as lacking knowledge. In this study there were only 25.6% of families with income above the MWR with 63.0% of families having income below the MWR. So that it can be concluded that there is no relationship between the level of maternal knowledge, education, and family income with the nutritional status of children in the Kalitanjung Cirebon Health Center. This can be a reference for further research on other factors affecting the nutritional status of children in the area

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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