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Correlation between Food Schemes and Children Nutrient Status at the Toddler's Age

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ABSTRACT

The nutrient in the meal is very important, especially for the children at the toddler's age. The aim of this research was to know the correlation between the food schemes with the children nutrient status at the toddler's age (1-3 years). The research design was cross sectional. The population for this research was all of the mothers and the children at the toddler's age (1-3 years). The sample was taken using purposive sampling method. Many respondents served in appropriate meal to their children. Many children suffered poor nutrition status.

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1. INTRODUCTION

Food nutrient becomes very important thing to note. Especially at the toddler age children, because at this time occurred the development period of rapid physical and mental. Toddler age children are children aged 12-36 months which is usually called as the golden period. Children aged 1-3 year are passive consumers; it means that they receive food from what is provided by mother. Under such conditions, toddler should be introduced to a variety of foodstuffs [1],[2]. Child's feeding patterns need to be done properly because the conditions of children are different from adults. Things that need to be considered not only the fulfillment of the right amount of nutrients, but also a form of physical (texture) of food and way of giving it [3],[4]. Data from the 2010 national Riskesdas, the prevalence of less severe in 2010 was 17.9 %, consisting of 4.9% malnutrition and 13.0 % less nutrition. In 2011 there were 900 thousands children severely malnourished. This amount represents 4.3% of the total number of children in Indonesia as many as 23 million people (Minister of Health, 2011). From the total 1.29 million children in East Java, more or less around 38% of them suffer from malnutrition. In Mojokerto on January 2012 the malnutrition case reached at 62 cases, the case is lower than 3 months earlier. From the preliminary study by questionnaire on 28 October 2012 at Wates, Watesnegoro village, Ngoro district Mojokerto is obtained from 10 mothers, two mothers (20%) said that the selection of food menus prefer the self-mother option for good nutrition for their children, so the nutritional needs get more attention. While the 8 mothers (80%) say that it is better to the children choose their own food menu rather than the children do not want to eat. In addition, they also assume that what are eaten by child has adequate nutrition as long as the child is not getting sick, so they tend to pay less attention to their nutritional needs.

Malnutrition in children can be impacted to susceptible to disease, body fatigue, nutritional deficiency disease, lazy, poor growth and physical and psychomotor development and mental. Mean while, excess nutrition is also not good, over nutrition will form excess energy that causes obesity (overweight), while the excess of certain vitamins and minerals can also cause poisoning and even obstructing the growth [5],[6]. The lack of vitamins and minerals will also obstruct the activity of the metabolism due to the lack of available enzymes in the body of the child, so that there will be accumulation of the substance / compound between (intermediate substances) in the body and this situation creates a feeling of lethargy/feeling ill, thereby reducing appetite [7].

2. RESEARCH METHODS

This study used correlation analytic research method with cross sectional approach. The author describes the relationship between food scheme and nutritional status of children in the toddler age (1-3 years) at Wates, Watesnegoro village Ngoro district Mojokerto in 2013.

The population of this research was all mothers and toddler age children (1-3 years) at Wates, Watesnegoro Ngoro District Mojokerto (48 respondents). Sampling technique in this study was using non probability sampling employed purposive sampling type. There were 27 respondents participated in this study.

This research instruments were: questionnaire (questionnaire); observation forms; other forms associated with data recording [8]-[10]. This research was conducted at Wates, Watesnegoro village in Ngoro District Mojokerto in October 2012 until May 2013.

Processing and Data Analysis: after the data is collected; the data processing is done through the stages of editing, coding, scoring, and tabulating. To determine the relationship between variable 1 and variable 2 then performed statistical tests Chi Square with 95% confidence level ($\alpha: 0.05$) using the SPSS for windows to determine whether there is a relationship between two variables which are nominal-ordinal scale. If $\alpha \leq 0.05$, H_0 (the null hypothesis) is rejected, meaning that there is a relationship between the food scheme with the nutritional status at toddler age children (1-3 years). To analyze the data pattern of food scheme at toddler age children (1-3 years) is interpreted to change the score \bar{x} to T scores.

3. RESULTS AND ANALYSIS

3.1. General data

- a. Table 1 shows the data about the number of children (1-3 years) at Wates, Watesnegoro Ngoro District Mojokerto in 2013.

Table1. Frequency distribution of respondents based on Number of children

| No. | Number of children | Frequency | % |
|-----|--------------------|-----------|------------|
| 1 | 1Child | 17 | 63 |
| 2 | 2-3 Children | 9 | 33.3 |
| 3 | > 3 Children | 1 | 3.7 |
| | Total | 27 | 100 |

Table 1 informs that the majority of the number of children is one child (63%) which means that in this study the number of respondents of toddler's age is not equalized where the number of toddler aged 2-3 years old is not same with the the number of toddler aged 1 year.

- b. Table 2 shows about the mother's age who gives the food scheme to her toddler in Wates, Watesnegoro Ngoro District Mojokerto in 2013.

Table2. Frequency distribution of respondents based on mother age

| No. | Age mother | Frequency | % |
|-----|--------------|-----------|------------|
| 1 | < 25 years | 7 | 25.9 |
| 2 | 25-30 years | 6 | 22.2 |
| 3 | > 30 years | 14 | 51.9 |
| | Total | 27 | 100 |

Table 2 shows that the majority of mother age is more than 30 years (51.9%). So, in this study, the age of mother who gives the food scheme to her toddler is not equalized where the mother's age is < 25-30 years old is less than a mother aged >30 years old.

- c. Table 3 shows about the mother's job that gives the food scheme in Wates, Watesnegoro Ngoro District Mojokerto in 2013.

Table 3. Frequency distribution of respondents based on mother's job

| No. | Job | Frequency | % |
|-----|----------------|-----------|------------|
| 1 | Housewife | 16 | 59.3 |
| 2 | Civil servants | 0 | 0 |
| 3 | Private | 9 | 33.3 |
| 4 | Farmer | 0 | 0 |
| 5 | Self employed | 2 | 7.4 |
| | Total | 27 | 100 |

Table 3 shows that the majority of mothers' job as housewife as many as 16 respondents (59.3%). So, in this study can be concluded that mother's job is not equalized where the number of the private and the self employed is less than house wife mother.

- d. Table 4 shows about the respondents based on education of mother who gives the food scheme to her toddler in Wates, Watesnegoro Ngoro District Mojokerto in 2013.

Table 4. Frequency Distribution of Respondents based on Education of mother

| No. | Education | Frequency | % |
|-----|------------------------|-----------|------------|
| 1 | Elementary school | 3 | 11.1 |
| 2 | Junior high school | 7 | 25.9 |
| 3 | Senior high school | 14 | 51.9 |
| 4 | Colleges /Universities | 3 | 11.1 |
| | Total | 27 | 100 |

Table 4 shows that the majority of mothers completed senior high school education as much as 14 respondents (51.9%). So, in this study, mothers who give the food scheme is not at the same education, especially for the elementary and college mothers is less than the senior high school.

3.2. Specific data

- a. Table 5 shows about the respondents based on the food scheme they give to their toddler in Wates, Watesnegoro Ngoro District Mojokerto in 2013.

Table 5. Frequency Distribution of Respondents Based on Food scheme

| No. | Eating | Frequency | % |
|-----|---------------|-----------|------------|
| 1 | Not Available | 15 | 55.6 |
| 2 | Match | 12 | 44.4 |
| | Total | 27 | 100 |

Source: Primary data

Based on Table 5 can be seen that most respondents granting diets are not appropriate as much as 15 respondents (55.6%). Those data show that in this village, there are still many mothers who cannot give a good food scheme to their toddler.

- b. Table 6 shows the respondents based on their nutritional status of toddler 1-3 years in Wates, Watesnegoro Ngoro District Mojokerto in 2013.

Table 6. Frequency Distribution of Respondents Based on Nutritional Status of Toddler 1-3 Years

| No. | Nutritional status | Frequency | % |
|-----|--------------------|-----------|------------|
| 1 | Poor | 10 | 37 |
| 2 | Less than | 5 | 18.5 |
| 3 | good | 8 | 29.6 |
| 4 | Over Weight | 4 | 14.8 |
| | Total | 27 | 100 |

Source: Primary data

Based on Table 6 can be seen that the majority of respondents have 1-3 years toddler age children with poor nutritional status (37%). This table show that eventhough the nutritional status is dominated by poor nutritional status, there are still toddlers who have good nutritional status with mother in low education.

- c. Table 7 shows about the Cross Tabulation between Food scheme with Nutritional Status of Toddler (1-3 years) in Wates, Watesngoro Ngoro District Mojokerto in 2013.

Table 7. Cross Tabulation between Food scheme with Nutritional Status of Toddler (1-3 years)

| Nutritional status | Food scheme | | | | Amount | |
|--------------------|---------------|-------------|-----------|-------------|-----------|------------|
| | Not according | | Match | | f | % |
| | F | % | F | % | | |
| Poor | 9 | 90 | 1 | 10 | 10 | 100 |
| Less than | 5 | 100 | 0 | 0 | 5 | 100 |
| Good | 0 | 0 | 8 | 100 | 8 | 100 |
| Over Weight | 1 | 25 | 3 | 75 | 4 | 100 |
| Total | 15 | 55.6 | 12 | 44.4 | 27 | 100 |
| p value | 0,00 | | | | | |

Source: Primary data

The Table 7 shows that the giving of a bad food scheme will have a poor nutritional status toddler, as well, as much as 9 toddlers. While for the match food scheme will give good nutritional status as much as 8 toddlers. That table shows that the p value was 0.00, while $\alpha \leq 0,05$, which means H_0 rejected. This shows there is a correlation between the mother's food scheme to toddler's nutritional status. It means that the better of food scheme to toddlers, the better of nutritional status they get.

3.3. Discussion

Based on Table 7 can be seen that the partial of respondents gave the unsuitable food pattern, 15 respondents (55.6%) and the majority of respondents provide their suitable food pattern, 12 respondents (44.4%). Lack of knowledge and misconceptions about the need for food and food values are common in every country in the world. If the mother has the knowledge and skills both in the field of health, the child can be assured of growth and development vice versa if the mother lacked the knowledge and skills in the field of health, the treatment of their children will be far from healthy behaviors; resulting child will get health problems.

Respondents in this study also showed that most of them have high school background, 14 respondents (51.9%), where the high school is an upper secondary education. The higher the person's level of education, the more easily receives information so that the more knowledge that they have [11]. On the contrary, less education will hinder the development of a person's attitude towards the new values introduced.

One of factors affecting the food scheme is socio-economic factor. In this study indicates that most respondents do not work or are housewives, 16 respondents (59.3%). Therefore the economic result is a fit result to fulfill needs every day [1]. According limited family income also determine the quality of the food served. There is no denying that the family income will also determine the dishes were presented in daily, both in quality and quantity of the food. There was also a mother who does not work generally spent her time to do household chores such as sweeping, mopping, washing and cooking. Free time is used for breaks, so to obtain information and gain knowledge about the nutritional status of children toddler (1-3 years) also diminish. So in this case, it may affect the respondent to provide in appropriate food scheme for children.

Nutritional status of children at toddler age (1-3years); based on Table 6 is obtained mostly toddlers (1-3 years) in Wates village get poor nutritional status, 10 respondents (37%), malnutrition 5 respondents

(18.5%), good nutrition 8 respondents (29.6%), and nutrition over weight, 4 respondents (14.8%). Nutritional status is a state of the body as a result of the consumption of food and use nutrients [12]. The respondents are in this study show that they pay less attention to their children's nutritional status. This is evidenced by the majority of toddler age children (1-3 years) with the status of malnutrition[13]. The influencing factor is the ignorance of the relationship of food and health, family income level, health care and family upbringing.

Respondents in this study suggested that they give unmatched food pattern which is not suitable with nutritional status due to lack of knowledge respondents giving food patterns accordingly. However, they still strive to give nutrient intake for their children. Therefore, the respondents sought to improve their knowledge through the mass media, or follow the education of health professionals that will add their insights about the food scheme accordingly [14]. This indicates that the adequate food pattern gave the better the nutritional status of children aged toddler [15].

4. CONCLUSION

There was a relationship between food scheme and nutritional status of children at toddler ages (1-3 years) at WatesWatesnegoro village Ngoro District Mojokerto, Indonesia.

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