

## The effect of eating behavior on the nutritional status of toddlers

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### ABSTRAK

**Latar Belakang:** Masa anak adalah masa pertumbuhan dan perkembangan yang pesat, untuk itu kebutuhan akan zat gizi yang tinggi harus terpenuhi. Perilaku makan pada anak berperan penting terhadap status gizi. Perilaku makan yang tidak sesuai akan menyebabkan asupan gizi berlebih atau sebaliknya kekurangan.

**Tujuan:** Mengetahui pengaruh perilaku makan terhadap status gizi balita di Posyandu Mahoni 02 Kelurahan Gedongkiwo Kota Yogyakarta.

**Metode:** Jenis penelitian kuantitatif dengan rancangan analitik observasional, desain penelitian cross sectional. Sampel dalam penelitian ini sebanyak 33 responden. Analisis data dilakukan secara kuantitatif menggunakan uji analisis Regresi.

**Hasil:** Berdasarkan status gizi, didapatkan status gizi kurang 6 anak (18,2%), status gizi baik 26 anak (78,8%) dan status gizi lebih 1 anak (3%). Perilaku makan yang mengeluarkan kembali makanan yang telah masuk mulut sebanyak 7 anak (21,2%). Perilaku menahan makanan di dalam mulut/tidak dikunyah dan di telan dalam jangka waktu lama sebanyak 7 anak (21,2%). Perilaku menolak makan dengan menutup mulut ataupun menepis makanan sebanyak 11 anak (33,3%). Hasil analisis perilaku mengeluarkan makanan terhadap status gizi didapatkan  $\text{sig } 0,000 < 0,05$ . Hasil analisis perilaku menolak makanan terhadap status gizi didapatkan  $\text{sig } 0,040 < 0,05$ . Hasil analisis perilaku menahan makanan di dalam mulut terhadap status gizi didapatkan  $0,941 > 0,05$ . Secara simultan perilaku makan anak terhadap status gizi anak didapatkan  $\text{sig } 0,000 < 0,05$ .

**Kesimpulan:** Terdapat pengaruh perilaku makan dengan status gizi balita di wilayah kerja Puskesmas Mantrijeron Kota Yogyakarta.

**KATA KUNCI:** anak; perilaku makan; status gizi

### ABSTRACT

**Background:** Childhood is a period of rapid growth and development. Therefore, the need for high nutrients must be met. Eating behavior in children plays an important role in their nutritional status. Inappropriate eating behavior will lead to an excess nutrient intake or, conversely, a lack of nutrition.

**Objectives:** To determine the effect of eating status of toddlers at Posyandu Mahoni 02 Gedongkiwo, Yogyakarta.

**Methods:** This type of research is quantitative with observational analytic design and uses cross sectional research design. Samples in this study were 33 respondents. Quantitative data analysis using regression analysis test.

**Results:** Based on the nutritional status, 6 children have undernutrition (18.2%), 26 children have good nutritional status (78.8%), and 1 child have overnutrition (3%). Furthermore, the behavior of removing food in the mouth was found in 7 children (21.2%). The behavior of holding food in the mouth was found in 7 children (21.2%). The behavior of refusing to eat by closing the mouth was found in 11 children (33.3%). The results of the analysis of the behavior of removing food on nutritional status indicated a sig value of 0.000 ( $< 0.05$ ). Besides, the results of the analysis of the behavior of refusing food on nutritional status indicated a sig value of 0.040 ( $< 0.05$ ). In addition, the results of the analysis of the behavior of holding food in the mouth on nutritional status indicated a sig value of 0.941 ( $> 0.05$ ). Simultaneously, the results of the analysis of the eating behavior on the nutritional status of children indicated a sig value of 0.000 ( $< 0.05$ ).

**Conclusions:** Eating behavior has an influence on the nutritional status of toddlers

**KEYWORDS:** eating behavior, nutritional status, toddlers.

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## INTRODUCTION

Childhood is a period of rapid growth and development. Therefore, the need for high nutrients must be met. Nutrients for children have benefits for optimal growth and development processes, maintaining health and restoring health when they are ill, and carrying out various activities. For this reason, parents should educate them on good habits by loving foods that contain nutrients needed by their bodies. Nutritional status is the state of the body as a result of food consumption and the use of nutrients. There are three types of nutritional status, namely undernutrition, good nutritional status, and overnutrition. Nutritional status is an expression of the balanced state in the form of certain variables or the manifestation of nutrition in the form of certain variables (1).

In Indonesia, there were about 53% of children under the age of 5 years suffering from malnutrition in 2012, caused by a lack of food to meet their daily nutritional needs (2). Children's eating behavior is a behavior that can be seen and observed, carried out by children to meet the

food needs which are basic physiological needs that become reactions to stimuli that come from within themselves and also from outside themselves. Eating behavior is a person's response to food as a vital need for life (3). Difficulty in eating or eating disorders is not a diagnosis or disease but a symptom or sign of a deviation or disorder that is happening in the child's body. Difficulty in eating is experienced by 25 – 40% of children (4).

Good eating behavior needs to be formed in an effort to meet nutritional needs. Inappropriate eating behavior will lead to an excess nutrient intake or vice versa. Excess intake may cause excess nutrients. Conversely, food intake that is less than needed will cause the body to become thin and susceptible to disease. Good eating behavior also needs to be developed to avoid negative interactions of nutrients that enter the body (5). Based on the elaboration above, the researchers were interested in conducting a study entitled "The Effect of Eating Behavior on the Nutritional Status of toddlersat Posyandu Mahoni 02 Gedongkiwo, Yogyakarta."

**MATERIAL AND METHODS**

This type of research is quantitative with observational analytic design and uses cross sectional research design. Samples in this study were 33 respondents, selected using an accidental sampling technique.

The independent variable in this study was eating behavior, while its dependent variable was nutritional status. The collected data were analyzed quantitatively using univariate analysis and bivariate analysis with the multiple linear regression analysis tests.

**RESULTS AND DISCUSSION**

**Table 1** Frequency Distribution of Mothers' Characteristics by Age, Occupation, and Number of Children

Mothers' Characteristics	n (%)
Age	
20–35 years	24 (72.7)
>35 years	9 (27.3)
Total	33 (100)
Occupational Status	
Work	6 (18.2)
Not work	27 (81.8)
Total	33 (100)
Number of children	
1	12 (36.4)
2	14 (42.4)
>2	7 (21.2)
Total	33 (100)

**Table 1** shows that the majority of mothers' age was in the range of 20 – 35 years (72.7%), most of them did not work to earn a living (81.8%), and the number of children they had was mostly 2 children (42.4%). **Table 1** shows that the majority of mothers' age in this study is in the range of 20 – 35 years, meaning that mothers when giving birth to their children are in a healthy reproductive period. Most of the mothers do not work to earn a living or become housewives and the number of children they have is mostly 2 children. The number of children born and the interval process of giving birth that

is too close are related to the burden of household work and also affect the physiological ability of the mothers' body to provide nutrition for their baby (6).

**Table 2.** Frequency Distribution of Children's Characteristics by Age and Gender

Children's Characteristics	n (%)
Age	
6–12 months	4 (12.1)
13–24 months	5 (15.2)
25–36 months	9 (27.3)
37–48 months	10 (30.3)
49–60 months	5 (15.2)
Total	33 (100)
Sex	
Female	17 (51.5)
Male	16 (48.5)
Total	33 (100)

**Table 2** shows that the majority of children in this study were female (51.5%) and had an age of 37 – 48 months (30.3%). **Table 2** shows that the majority of children's age in this study is 37 – 48 months and most of them are female. Factors that affect nutritional status are divided into two, namely internal factors and external factors. Internal factors are factors that exist within the children themselves, including health nutritional status, age, gender, and body size. The factor of age is very important in determining nutritional status. Errors in determining the age will cause the interpretation of nutritional status to be wrong. Accurate height and weight measurement results will be meaningless if it is not accompanied by an appropriate age determination. External factors that can affect nutritional status are factors that come or exist from outside the children themselves, including the mother's knowledge and economic factors (7).

**Table 3. Cross-Tabulation of the Children's Behavior of Taking Food out of their Mouth, their Nutritional Status, and the Results of Bivariate Analysis**

Nutritional Status	n (%)		Total	Sig.
	Taking Food out of the Mouth			
	Yes	No		
Undernutrition	5 (15.2)	1 (3)	6 (18.2)	0.000
Good	2 (6)	24 (72.8)	26 (78.8)	
Overnutrition	0 (0)	1 (3)	1 (3)	
Total	7 (21.2)	26 (78.8)	33 (100)	

Based on **Table 3** above, 6 children experienced undernutrition (18.2%), which 5 of them (15.2%) had a behavior of taking food out of the mouth. In addition, 26 children experienced good nutritional status (78.8%), which 2 of them (6%) also had a behavior of taking food out of the mouth. Furthermore, the significance value (2-tailed) shown in **Table 3** was 0.000 ( $< 0.05$ ). It can be concluded that the behavior of taking food out of the mouth in children aged 6 – 60 months has an influence on their nutritional status. Based on **Table 3**, the behavior of taking food out of the mouth occurs in 15.2% of children who experience undernutrition. Undernutrition is an unhealthy condition caused by not meeting the food needs needed by the body. The state of undernutrition will result in the inhibition of the children's growth

and development process. Meanwhile, the state of overnutrition will cause obesity in children and make them at risk of suffering from degenerative diseases. Therefore, the problem of nutritional status needs to be addressed for those who have been affected. Furthermore, this problem also needs to be prevented for those who have not been exposed to nutritional status problems. By doing so, the cases concerning the nutritional problems can be reduced (8).

The behavior of taking food out of the mouth is conducted by spitting out food if they do not like the food or throwing up the food that is being eaten. The significance value (2-tailed) as presented in **Table 3** is 0.000 ( $< 0.05$ ). It can be concluded that the behavior of taking food out of the mouth in children aged 6 – 60 months has an influence on their nutritional status.

**Table 4. Cross-Tabulation of the Children's Behavior of Holding Food in their Mouth, their Nutritional Status, and the Results of Bivariate Analysis**

Nutritional Status	n (%)		Total	Sig.
	Holding Food in the Mouth			
	Yes	No		
Undernutrition	3 (9.1)	3 (9.1)	6 (18.2)	0.941
Good	4 (12.1)	22 (66.7)	26 (78.8)	
Overnutrition	0 (0)	1 (3)	1 (3)	
Total	7 (21.2)	26 (78.8)	33 (100)	

Based on **Table 4** above, 6 children experienced undernutrition (18.2%), which 3 of them (15.2%) had a behavior of holding food in the mouth. In addition, 26 children experienced good nutritional status (78.8%), which 4 of them (12.1%) also had a behavior of holding food in

the mouth. Furthermore, the significance value (2-tailed) shown in **Table 4** was 0.941 ( $> 0.05$ ). It can be concluded that the behavior of holding food in the mouth in children aged 6 – 60 months does not have an influence on their nutritional status. Based on **Table 4**, the behavior of holding

food in the mouth occurs in 9.1% of children who experience undernutrition. Holding food in the mouth can last up to > 30 minutes. Eating behavior in children plays an important role in nutritional status. However, eating behavior is an eating habit that can be changed (9).

The significance value (2-tailed) as presented in **Table 4** is 0.941 (>0.05). It can be concluded that the behavior of holding food in the mouth in children aged 6 – 60 months does not have an influence on their nutritional status.

The results of a study conducted by Bonavantura Nursi Nggarang and Oktavius Fefri Bodus (2019) reveal that eating difficulty in children is caused by several factors, such as experiencing mouth problems (thrush), having snacks and milk before mealtime, and experiencing a decrease in appetite due to sick. Children have unique eating patterns in terms of type, time, and taste. If parents only force them to comply with their wishes, the child will have eating difficulty (10).

**Table 5. Cross-Tabulation of the Children’s Behavior of Refusing to Eat, their Nutritional Status, and the Results of Bivariate Analysis**

Nutritional Status	n (%)		Total	Sig.
	Refusing to Eat			
	Yes	No		
Undernutrition	4 (12.1)	2 (6)	6 (18.2)	0.040
Good	7 (21.2)	19 (57.6)	26 (78.8)	
Overnutrition	0 (0)	1 (3)	1 (3)	
Total	11 (33.3)	22 (66.7)	33 (100)	

Based on **Table 5** above, 6 children experienced undernutrition (18.2%), which 4 of them (15.2%) had a behavior of refusing to eat. In addition, 26 children experienced good nutritional status (78.8%), which 7 of them also had a behavior of refusing to eat. Furthermore, the significance value (2-tailed) shown in **Table 5** was 0.040 (< 0.05). It can be concluded that the behavior of refusing to eat in children aged 6 – 60 months has an influence on their nutritional status. Based on **Table 5**, the behavior of refusing to eat occurs in 12.1% of children who experience undernutrition. The behavior of refusing to eat is conducted by closing the mouth when given food, brushing the food off when they are fed by their parents, or preferring to do other activities, such as playing, rather than eating. The behavior of refusing to eat in children can be caused by the mother giving too much attention to them. Children love to get attention so that they know that, to get their mother’s attention, they refuse to eat. The behavior of refusing to eat can also occur because of the fact that they do

not like the taste of the food given. However, mothers do not realize this fact.

Eating difficulty is the behavior of children indicated by refusing to eat, only eating certain foods, eating their meal slowly, and often not finishing their food. Eating difficulty is the inability to eat and refuse certain foods. In addition, eating difficulty is recognized by the behaviors of spitting the food out of the mouth, not wanting to put food in the mouth at all, eating for a long time, playing with food, not chewing but directly swallowing the food, and other eating difficulties (11). The significance value (2-tailed) as presented in **Table 5** is 0.040 (<0.05). It can be concluded that the behavior of refusing to eat in children aged 6 – 60 months has an influence on their nutritional status.

Simultaneously, the effect of all eating behaviors analyzed in this study (i.e., taking food out of the mouth, holding food in the mouth, and refusing to eat) on the nutritional status of children is represented with a significance value of 0.000 (<0.05), indicating that  $H_0$  is rejected.

For this reason, all eating behaviors in children simultaneously have an influence on their nutritional status.

Overcoming eating difficulty in children can be carried out by letting children feel that eating is a necessity, explaining the importance of food, limiting meal times, getting used to eating together at the dinner table, not forcing them, letting them choose what they want to eat, eating in groups, make food more interesting, and creating menu cycle.

### CONCLUSIONS AND RECOMMENDATION

Based on the results of the data analysis and the elaborated discussion in the previous section, it can be concluded that, partially, the behaviors of taking food out of the mouth and refusing to eat have an influence on children's nutritional status. However, the behavior of holding food in the mouth does not have an influence on children's nutritional status. Furthermore, simultaneously, all eating behaviors (i.e., taking food out of the mouth, holding food in the mouth, and refusing to eat) have an influence on children's nutritional status.

Based on the conclusions, the suggestion that can be given is that eating behavior is an eating habit that can be changed. Therefore, good eating behavior needs to be formed as an effort to meet nutritional needs. Parents can control the amount and type of children's intake, serve healthy foods, limit unhealthy foods, involve children in choosing food menus, discuss with children in determining healthy food alternatives, and provide examples of healthy and balanced food consumption.

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