



THE EFFECT OF PEAKY EATER ON COGNITIVE DEVELOPMENT PRESCHOOLERS

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Abstract

This study was to determine the effect of picky eaters on the cognitive development of preschool children. The most highlighted child development is cognitive development. Cognitive is closely related to the ability to think. When children undergo activities, they will think. This development is also influenced by several factors, one of which is nutritional intake. This study used a qualitative research with a sample of 141 children. Institutions were chosen randomly, namely 4 preschool institutions in Karangploso sub-district. Picky eaters are measured by 5 subscales in the child eating behavior questionnaire (CEBQ), namely food avoidance satiety responsiveness (SR) avoiding food or getting full quickly; slowness in eating (SE) long chewing; fussiness (FF) fussy, food approach food responsiveness (FR) eating with coaxing; and enjoyment of food (EF). The results obtained are that 89.8% of children experience picky eaters and 9.2% of those who do not experience picky eaters. (SR) avoid food or get full quickly as much as 16.4%; slowness in eating (SE) 33.5% chewing time; fussiness (FF) fussiness as much as 50%. Based on the t-count value of -13.587 or smaller than the t-table of 1.977 and cognitive development of 0.00 or less than 0.05, then there is a correlation that children who are picky eaters will experience a decline in cognitive development.

Key words: preschool, picky eater, kognitif.

INTRODUCTION

Kindergarten-age children are children with rapid development and enter the *golden age phase*. *Golden age* is a phase where all aspects of child development are ready to be developed (Kartini, 2008). Montessori (2013) states that kindergarten age is after the brain absorbs. He will absorb anything in his environment. This phase is very influential on the next development for children, for example he does not grow well, the kindergarten period is not filled with knowledge or good stimulus for his development, then it will affect the next phase. (Sulyandari, 2020). Children will find it difficult to learn, difficult to communicate with people around even if they get the wrong parenting style such as being given *gadgets* at the age of 2 years, will experience speech delays (Sulyandari, 2019).

The most highlighted child development is cognitive development. Cognitive is closely related to the ability to think (Goldin & Steingold, 2001). When children undergo activities, they will think (Gardner, 2014). Children's cognitive abilities must be honed, because children's cognitive is a matter that involves

learning memory skills and abstract thinking (Gordon and Kathryn 2011), but there are various factors of children's cognitive development, namely stimulus factors and nutritional intake factors. Nutritional intake is very beneficial for children starting in the womb (Prasetyowati, 2018). Whatever pregnant women consume will be distributed to children, so it is recommended that pregnant women should eat foods that do not contain formalin, rodamin, synthetic dyes and other ingredients.

Nutritional status is the state of the body as a result of food consumption and the use of nutrients. Differentiated between poor, less, good, and more nutritional status. (Wijayanti et al., 2020). In the past, the notion of nutrition was food intake for the health of the body, so as not to get sick easily physically. Times have changed, the shift in the meaning of nutrition is food intake for body energy which can affect growth and development. Growth and development is not only limited to physical, but also brain development, productivity and intelligence. Nutrition is also associated with the economic level of the community. The higher the economy class, the higher the nutrition consumed.

Nutrition plays an important role in the growth and development of children. Children who are stunted, babies born short, and obese are often problems in themselves. The nutritional dose for each child varies. Things that affect these factors include activity and food intake while in the womb, as well as after birth. This affects growth. Weight change and height gain is the meaning of growth that can be measured in cm and kg. Nutrition is an important intake for the body, but picky eaters can inhibit nutritional intake for the body.

A child can experience developmental delays in only one area of development, or it can be in more than one area of development. Around 5 to 10% of children are estimated to have developmental delays (Prasetyowati, 2018). In the last three years, according to the short Nutritional Status Monitoring (PSG), there has been a high prevalence when compared to other nutritional status problems such as undernutrition, underweight, and fat. An increase in short toddlers was recorded in 2016 from 27.5% to 29.6% in 2017. In particular, in East Java Province, it is stated that 10 babies are born every day with low body weight and almost 36% of children under the age of five are prone to stunting (Fitroh & Oktavianingsih, 2020). Kindergarten-age children are in the period of brain absorption as Montessori explained, so they need good nutritional intake for good growth and development as well. Good nutritional support needed for a child's growth includes weight increases by 0.23 kg and height increases by 1 cm for each month. In addition, nutritional intake must be in accordance with their needs

because children's activities are very dense and especially to support their cognitive abilities as well (Cerdarari et al., 2017).

In Karangploso sub-district, Malang Regency, there are many posyandu in every village and even in every hamlet so that children's growth and development are monitored. Posyandu is held once a month so that children's gzi is controlled, especially with the implementation once a month, children's growth and development are also controlled considering that there are so many cases of malnutrition and obesity in children caused by food intake.

In recent years, picky eater research has never been conducted in the sub-district. Therefore, this study is very appropriate to be carried out to determine the profile of children's diet and its effect on the cognitive development of kindergarten children. Picky eater is defined as a child with several eating behavior criteria such as quickly feeling full, eating sluggishly, fussy and picky eaters, less response to food, and less enjoying eating moments (Pintarari et al., 2017). Of course, picky eaters can affect children's cognitive abilities, because the ability to think involves the brain, so the brain also needs proper nutritional intake. Not meeting these nutritional needs will have an impact on children's growth and development. One of them is slowing physical growth, less intelligent and less agile, immune system is more susceptible to disease, and more at risk of chronic diseases such as hypertension, diabetes, heart disease and stroke (Amirullah et al., 2020).

Children's food today contains more sugar, thus causing obesity. Lack of knowledge of parents about child nutrition, causing them to assume, that fat is healthy. From the results of pre-research interviews with several kindergarten parents, the following information was obtained: 1) parents often give food that children like, as long as they are not fussy. 2) People like to give milk to children, because they think milk comes first, 3) Children like wafers and something sweet. Meanwhile, from the results of pre-research observations conducted, there are results, namely: 1) children prefer sweet snacks, 2) children are picky in eating when eating together at school, 3) children like snacks with light color, spicy, and salty that do not contain nutrients such as crackers.

From some of the pre-research results above, it can be concluded that children experience picky eaters, but does it affect children's cognitive development? This is very necessary to be researched to determine the effect of picky eaters on child development. This study will also analyze what factors make children picky eaters.

METHOD

This research uses quantitative, conducted in the Karangploso sub-district area of Malang regency. In January-May 2021. The study sample was children aged 3-6 years, without involving children with special needs. The children involved were 141. Researchers chose villages with random techniques, namely Bocek Village, Girimoyo Village, Ampeldento Village and Ngenep Village. The dependent variable of the study was cognitive ability. The independent variables were picky eaters, babysitters, food variants and snacks consumed. The research instrument used questionnaires and picky eater status tables. Data processing using SPSS. Bivariate analysis was performed with chi square statistical test with a degree of significance $p < 0.05$.

Picky eater is measured by 5 subscales in *the child eating behavior questionnaire* (CEBQ), namely food avoidance *satiety responsiveness* (SR) avoiding food or satiety; *slowness in eating* (SE) long chewing; *fussiness* (FF) fussiness, food approach (*food responsiveness* (FR) eating by being persuaded; and *enjoyment of food* (EF) enjoying food. Data will be collected through in-depth interviews with teachers and parents as well as child observations. This screening is done with questionnaires, then categorize picky eater children and their effects on cognitive development.

RESULTS AND DISCUSSION

From this study, it was obtained that children in Karangploso sub-district experienced picky eaters both boys and girls. This sampling involved children aged 3 to 6 years in kindergarten who had been randomly selected. The results will be presented in a table.

Age	Frequency	Percentage
3 (KB)	40	28,3
4-5 (TK A)	35	24
5-6 (TK B)	53	37,5
Tidak picky eater	13	9,2

Table 1. Picky Eater Percentage According to Age

From the table above, it can be concluded that playgroup children (KB) who have an age range of 3 years have experienced picky eaters as much as 31% of 141 respondents. TK A who has an age range of 4 years experienced picky eater as much as 26% and TK B who has an age range of 5-6 years experienced picky eater 41% of 141 respondents. This means that the older the child, the higher the picky eater. This is due to the condition of children who understand and recognize the taste the more, the pickier eater will be.

The results of picky eaters are (satiety responsiveness) (SR) avoiding food or satiety; slowness in eating (SE) long chewing; fussiness (FF) fussiness, food responsiveness (FR) response with food, and enjoyment of food (EF) enjoyment of food. But what picky eaters say is (satiety responsiveness (SR) avoiding food or satiety; slowness in eating (SE) long chewing; fussiness (FF) fussiness.

Types of Picky Eater	Frequency	Percentage
(SR) Avoiding food or getting full quickly	21	16,4
(SE) Long chewing	43	33,5
Fussiness (FF) fussy	64	50

Table 2. Picky Eater Percentage

From the table above, it can be concluded that children who avoid food and feel full quickly there are 14.8% of respondents totaling 141 children. Children who want to eat but chew for a long time as much as 30.4%. While fussy children at meals reached 39% of 141 respondents. This means that almost half of children experience fuss at the time of eating. The food response category was 7% and enjoyed food as much as 8.5 picky eaters. These two categories are those that do not include picky eaters. The following table is an analysis of the effect of picky eaters on cognitive.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
	1 (Constant)	9,000	,320				28,135
PE/NPE	-4,616	,340	-,755	-13,587	,000	1,000	1,000

Table 3. Table of Coefficient Values of Picky Eater's Relationship with Cognitive Development.

Table 3 shows the significance of the picky eater's relationship with cognitive development of 0.00 or less than 0.05. The t-count value is -13.587 or less than the t-table of 1.977. The data can be concluded that there is a relationship related to picky eater with children's cognitive development. For more details, can be seen in the following table.

Age	Good		Not Good	
	Frequency	Percentage	Frequency	Percentage
3 year (KB)	17	13,2	18	14
4 year (TK A)	9	7	27	21
5-6 year (TK B)	8	6,25	49	38,2

Table 4. Percentage of Picky Eaters Who Have Good and Poor Cognitive Abilities

Based on the results of the research above, it was found that the more after the child, the more the child will understand because it can determine what will be where. In accordance with table 1 above, we can see the order of age. Playgroup children have a lower picky eater trait than class B. There is no significant difference between the sexes with picky eaters. Men and women will experience picky eaters not based on gender (Purnamasari & Adriani, 2020).

According to (Wijayanti et al., 2020) picky eaters are influenced by several factors, including exclusive breastfeeding intake, variations in children's food, eating behavior of other family members, maternal pressure. Exclusive breastfeeding affects the baby's sense of taste before being given MP breast milk. The longer the child consumes breast milk, the more flavor is obtained, because the mother consumes a variety of foods. Breast milk is a buffer solution that does not change its taste, but changes its ph (acid-base levels) according to what the mother consumes, so that breast milk changes taste, actually changes the ph felt by the baby. The above is also the influence of the variety of food given by the mother. Communication between parents and children is also influential, because the more pressured to eat flavor variants, the more picky eaters will become picky eaters. Children will rebel and do not want to eat vegetables, so do not pressure children not to become picky eaters (Cendarari et al., 2017).

In table 2, data were obtained that children experience fussiness when eating. This percentage is the highest of other types of picky eaters, namely chewing for a long time and avoiding food or being full quickly. This affects nutritional intake in children. Actually, factory-made and home-made MP breast milk foods have no effect on children's nutritional intake (Lestari et al., 2014), but after they reach the age of 2 years and over, many factors cause children to experience picky eaters. There is no difference in giving supplements to children who are picky eaters or not, what must be considered is the reaction of parents to picky eater children, the more restrained, the more rebellious the child and does not want to eat (Wijayanti et al., 2020).

In table 3, it is explained that snacks consumed by children cause picky eaters. The taste of snacks that are consumed like thunder, too salty, spicy greatly affects children to become picky eaters. Children who consume spicy crackers, excess UHT milk, cause children to become picky eaters. (Purnamasari & Adriani, 2020). Picky eater children consume protein sources such as milk, fried chicken, and sausages in their daily lives. Protein and fat can be fulfilled, but food variants are considered poor and they have refused meat. But it should be emphasized, that picky eaters are not good for children because nutritional intake is less fulfilled,

precisely by consuming UHT milk more than 3 times a day makes children excess intake of content and fat.

In table 4 we can see that children who experience picky eaters affect their cognitive development. At the age of 3 years, there are 13.2% of picky eater children who have good cognitive, and there are 14% of picky eater children who do not have good cognitive. By age 4 there are 7% of children who are picky eaters, but have good cognitive, while 21% of children have problems in cognitive development. By age 5, 6.2% of children had good cognitive abilities even though they were picky eaters, while 38.2% had poor cognitive conditions. This means that children with picky eaters affect children's cognitive abilities. Limited nutritional intake of children will affect children in thinking.

CONCLUSION

Nutritional intake for early childhood is indeed very influential on cognitive development, although there are several percent of children's cognitive development does not worsen with picky eater conditions. The average early childhood experience picky eaters such as, long chewing, picky eating and fussy, but the percentage shows the highest number is fussy when eating. Based on the results of the study, data on children's cognitive development was influenced by picky eaters because one of the factors that influence brain development is nutritional intake.

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