Volume 6 Issue 6 (2022) Pages 7024-7035
Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini
ISSN: 2549-8959 (Online) 2356-1327 (Print)

Balanced Menu on Children's Abilities in Basic Motor Development and Early Childhood Intelligence

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DOI: 10.31004/obsesi.v6i6.3474

Abstract
This study aims to improve the relationship between nutrition and basic motor development with the intelligence of RA children in Purwasari District. This study uses mixed research methods. The model used is a quantitative method as the main method. The population in this study were 558 RA students in Purwasari District with the sampling technique using the Slovin formula so that 90 samples were obtained as respondents. The data collection technique used in this study is through a quantitative questionnaire; as well as observation, interviews, and documentation for qualitative. While the data analysis technique uses the normality test (quantitative) and reduction (qualitative). The results showed that in addition to providing good nutrition for children, training, stimulus, health factors also support gross motor development and children's intelligence. Three instruments have a reliability value to be used as a data collection tool.

Keywords: *balanced menu in children; motor development; early childhood intelligence*

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Received 13 September 2022, Accepted 25 November 2022, Published 6 December 2022

Introduction
Children are an extraordinary gift given by Allah SWT to parents. The greatest gift bestowed on two people who have been united. The fruit of the heart that is always coveted and awaited by parents. No parent wants children who are going through experiences and going through hardships (Alsaedi, 2020). Parents will give all the best for their children. Provides proper stimulation for optimal growth and development. Children are the next generation of the nation who will be the successors in continuing development in the future (Gibson, 2021). According to Law No. 20 of 2003 page 6 concerning the National Education System Article 1, point 14 which reads that Early Childhood Education is a coaching effort aimed at children from birth to 6 (six) years which is carried out through the provision of educational stimuli to assist physical and mental growth and development. spiritually so that children have readiness to enter more education carry on Alsaedi, (2020);Invernizzi et al., (2020);Rudd et al., (2019). According to Nur Cholimah (in Zhang et al., 2021), PAUD is a conscious effort to facilitate physical and spiritual growth and development from birth to the age of six which is carried out through providing experience and stimulation that is developing in an integrated and comprehensive manner so that children can grow and develop in a healthy and optimal manner in accordance with values, norms, and expectations of society (Lutter et al., 2021);(González-Fernández et al., 2020). Early infancy is a time when a

DOI: 10.31004/obsesi.v6i6.3474

person goes through a period of rapid growth and development—some may even experience developmental leaps and bounds (Rosita et al., 2020). Early childhood education is a crucial period that requires care and attention as soon as possible. Among the skills young children are still learning. Motor skills of early childhood (Szanto-Feder, 2020). Children between the ages of three and six come first, as their growth requires stimulation to continue unhindered (Ruastiti et al., 2021).

Aspects of Child Development can develop effectively as long as it gets adequate stimulation. The best time for children to develop their physical, cognitive, linguistic, social, emotional, self-concept, self-discipline, and independence is now (Gibson, 2021). Early childhood education and learning through play are effective ways to stimulate children. Article 1 Number 14 of Law Number 20 of 2003 stipulates that children's education Early childhood education is a coaching effort aimed at children from birth to adulthood at the age of six years. Includes the provision of educational stimuli to support the physical and spiritual growth and development of children so that they are ready to enter higher schools (O'Connor et al., 2020). Early childhood education (PAUD) is basically a school that is planned to encourage the growth and development of the child as a whole or the development of every aspect of the child's personality (Fitriani & Adawiyah, 2018). Children's lives must be able to grow in various ways thoroughly through learning. In addition to the rapid development of children, Preschool offers children the best opportunity to learn how to realize their potential at a young age (Eddy & Moradian, 2020). According to the developmental schedule, there are specific patterns of how children develop (Wainwright et al., 2020). Each child develops differently from other children; some grow faster than others. As a result, early learning needs to be scaled back and made more challenging as the child ages. Motor movement according to Decaprio (2020) is a movement that takes place throughout the body and in the brain. The child's ability to control body movements is tied to this motor movement (Kamelia, 2019). Children use their hands and feet to organize their gross motor tasks in this way (Puspita & Delyana, 2019). Therefore, it is important to provide children with activities or exercise stimulation so that their muscles, especially the parts of the legs that support the weight while controlling movement, become strong (Khadijah et al., 2022).

Early childhood development and growth are greatly influenced by nutrition. A child's mental development, particularly their level of intellect, can be impacted by receiving proper nourishment during their early years (0–6 years). From conception till birth, it is crucial to pay attention to the health and nutrition of children. This is so because children's growth and development are significantly influenced by their health and diet. Healthy food and balanced nutrition for children will help them develop into well-rounded adults, and the reverse is also true. Malnutrition and diet are generally frequent health issues that children encounter, according to Santrock (2007:157). Nutrition has a big impact on a child's development. This is directly tied to dietary issues. Particularly now that there is a lot of rapid food, which is in it includes chemicals that, when ingested repeatedly over an extended period of time, are hazardous to human health. Children's Education Early Age (PAUD) can play a part in fostering the development of quality children in the future. Law Number 20 Year 2003 Concerning the National Education System Permendiknas No. 58 of 2009 stipulates that: 3 Children from birth to age six are the target of Education Early Childhood (PAUD), a coaching program that uses presents as educational stimuli assist children grow, develop physically, and spiritually so they are prepared to enter higher education.

According to Sumantri in (in Multahada et al., 2022), children's gross motor skills have various development goals, including: (a) assessing children's health and growth, (b) increasing endurance, (c) sharpening agility and movement skills, and (d)) improve their overall development When children can complete work or activities related to motor skills, (d) make them feel good about themselves, and (e) it (f) make them feel good about themselves (Winarsih, 2021);(Sefriyanti & Diana, 2021). One of the most important abilities in early life is the development of motor skills, which occurs quite rapidly as a child ages. This is evident

DOI: 10.31004/obsesi.v6i6.3474

because the motor skills of newborns are seen when the child moves his hands and feet. The development of this motor function will continue until the child is able to move adults by jumping, kicking, running, rolling, etc (Ramadhani et al., 2022). Therefore, in order for children's motor skills to grow and develop as well as possible, they must be given a stimulus for the growth of motor skills. Children will become adults and change optimally if they get the opportunity and encouragement given by parents to children to carry out activities or activities that involve the body and its limbs (Nofianti, 2021). Children can engage in physical motor exercise through coordinated movements, with the help of a stimulating atmosphere that fosters their natural curiosity (Indriani et al., 2022).

According to Heri Rahyubi (2022); Amorós et al., 2018), if the environment where children grow and develop supports children to move freely, then motor development, especially in early childhood, will be more ideal. In his research, Aini (in Kazachiner & Tkachenko, 2020) found that children's locomotor movements, especially toe walking and jumping, were strongly influenced by the imagination of gymnastics. Fantasy gymnastics can help with when children's basic movement skills are fully developed, they will be more interested in applying their imagination in the form of gymnastic exercises (Kiranida, 2019). In line with the results of research conducted Analysis of Gross Motor Stimulation Activities for Children 5–6 Years Old in Upin Ipin Film Based on Permendikbud No. 137 of 2014, this study aims to evaluate the gross motor tasks in the film Upin Ipin based on their suitability for children aged between 5 and 6. Research With this technique, activity analysis was used qualitatively. In this study, researchers used data cards other than themselves as instruments (Yogman et al., 2018).

The findings of this study indicate that the gross motor exercises in the Upin Ipin film correspond to the developmental phase of children between the ages of 5 and 6 years. The results of a study conducted by Ruiz-Esteban et al.,(in Manners, 2019) with the title Analysis of the Effect of a Motor Intervention Program on the Development of Gross Motor Skills for Preschool Children (Özkür, 2020). Research results During the same time period, the comparison group participated in an immersive program built around free play. Compared with pre-intervention and post-intervention, preschool children in both groups showed significant improvement in limb coordination (Rasid et al., 2020). Measurements of arm and leg coordination performed after the intervention showed a statistically significant difference between the comparison group and the intervention group, with the intervention group showing higher arm coordination scores (F1.134 = 14,389, p = 0.000, 2 = 0.097), and leg the higher the coordination value (F1.134 = 19.281, p = 0.000, 2 = 0.126) than the comparison group. Free play is not as effective an educational strategy as structured physical activity instruction to ensure that the motor skills of preschoolers are well developed. Based on the above problems, the researchers are interested in conducting research to find out the significant effect of giving a balanced menu on children's abilities in gross motor development and early childhood intelligence (Ramírez et al., 2022). This explanation leads to the conclusion that early childhood education is the first stage where the child is given guidance and stimulation for development. With regard to a healthy diet, teachers can teach students about the value of nutrition and the types of foods that contain nutrients, such as side dishes (tempeh, year, fish, eggs, chicken, meat), vegetables (spinach, mustard greens, carrots, corn, green beans, potatoes), and healthy drinks (milk, green beet juice, green tea, etc.). In order to provide kids a comprehensive understanding of everyday food consumption, it is important to teach them about balanced nutrition and how important it is for their bodies.

Methodology

This research was conducted in Raudhatul Athfal (RA) in the Purwasari District, Karawang Regency. The number of Raudhatul Athfal (RA) in Purwasari District is 15 educational institutions. This research was conducted in February-March 2021. The research method used is a combination research method. Combination research method is a research

DOI: 10.31004/obsesi.v6i6.3474

method based on the philosophy of Pragmatism, used to examine natural and artificial objects, using combination methods either sequentially or mixed. According to Nugroho et al., (2020), defining combination research or mixed research is research that combines qualitative and quantitative approaches.

Mixed methods research is also referred to as a methodology that provides philosophical assumptions in showing directions or giving instructions on how to collect data and analyze data as well as a combination of quantitative and qualitative approaches through several phases of the research process. As a method, mixed methods research focuses on data collection and analysis and combines quantitative and qualitative data in both a single study and a series study Tracey & Francesca, (2020);Froehlich et al., (2020);Reilly & Jones, (2017). For quantitative data, a five-scale questionnaire was used, starting with strongly disagree, disagree, moderate, agree and strongly agree (Supardi et al., 2021). The questionnaire consists of six sections, including cognitive items which were adapted from the literature, for example, modified to fit this study. Early childhood from selected schools were given a quiz to fill out. This method lasts 2 weeks.

Quality data is generated through focus group discussions (FGD) with students to assess students' feelings and experiences. The researcher interacted with the early childhood as a group, to the extent that the participants collected extensive data through interactions with each other and with the interviewers (Woodyatt et al., 2016).

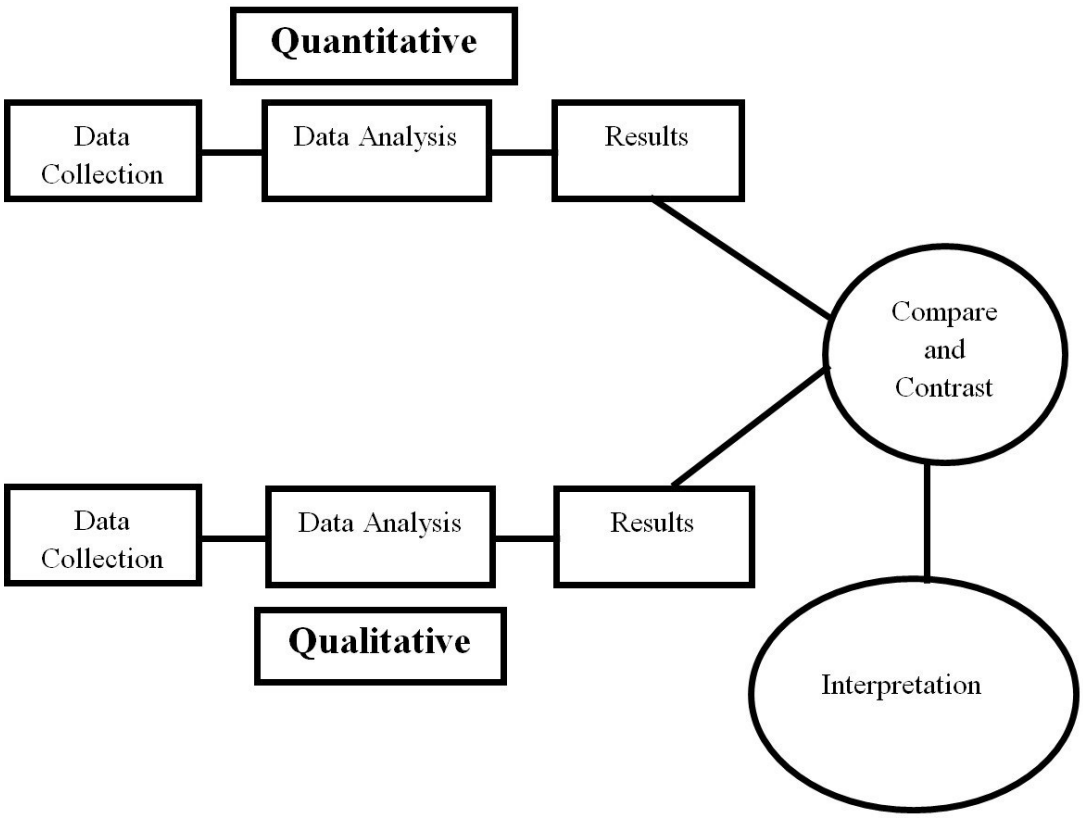

Figure 1. Mixed method research design approach (Adopted from Creswell 2012)

Results and Discussion

This data description is intended to present quantitative data on nutrition with gross motor development and early childhood intelligence in Raudhatul Athfal (RA) in Purwasari District. In this study, the data collected were analyzed by time, namely nutrition (X) and gross motor development (Y1) and intelligence (Y2).

The number of children in RA in Purwasari District is 558 children. So the number of children to be sampled is:

DOI: 10.31004/obsesi.v6i6.3474

n = 558 / (1 + (558 x 0.10 2))
n = 558 / (1 + (558 x 0.01))
n = 558 / (1 + 5.58)
n = 558 / 6.58
n = 84.8 (If rounded off, the minimum sample size of 558 populations at a margin of error of 10% is 85).

After obtaining the number of samples to be tested, it is determined how to take samples randomly with the accidental method. Accidental sampling is a sampling technique based on chance, that is, anyone who coincidentally meets a researcher can be used as a sample, if it is deemed that the person who happened to be met is suitable as a data source (Peterson & Peters, 2021).

Quantitative Method Research Results
Prerequisite Test Analysis

This section describes the testing technique of nutrition research instruments with gross motor development and children's intelligence which includes validity and reliability tests. This trial analysis was carried out using the *SPSS version 19 software* program . This is done to select or select items that are worthy of being used as measuring tools (Augustijn et al., 2018).

Validity test

The instrument validity test was used to test the validity of the questionnaire. For this purpose, the validity test in this study uses the *product moment correlation formula* . The following are the results of the analysis of the questionnaire test given to 90 respondents with the number of question items 5 questions for nutrition, 5 questions for gross motor development, and 5 questions for the variables of children's intelligence development which were analyzed using a tool: *SPSS* software version 19.

Table 1. Calculation of Peritem Validity of Nutritional Needs Questions

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
P1	12.34	9.397	.416	.796
P2	12.84	7.167	.716	.703
P3	12.74	7.204	.747	.694
P4	12.82	8.350	.527	.766
P5	13.07	7.366	.498	.789

Source: Test Results 90 Respondents

Table 2. Analysis of the Validity Questionnaire Test Analysis of Nutrition Variables

No	Corrected Item- Total Correlation (r count)	r table	Note:
P1	0.416	>0.205	Valid
P2	0.716	>0.205	Valid
P3	0.747	>0.205	Valid
P4	0.527	>0.205	Valid
P5	0.498	>0.205	Valid

DOI: 10.31004/obsesi.v6i6.3474

Based on the results of the analysis in the table 1 and 2, overall the items were tested on nutrition containing item validation. Thus it can be used to explore research data. Based on the results of the analysis, it is known that all question items are valid/valid. Based on the results of the analysis in the table 3 and 4, overall the items tested on gross motor development contain item validation. Thus it can be used to explore research data. Based on the results of the analysis, it is known that all question items are valid/valid. Based on the results of the analysis in the table 5 and 6, overall the items were tested on the development of intelligence containing item validation. Thus it can be used to explore research data. Based on the results of the analysis, it is known that all question items are valid/valid.

Table 3. Calculation of Peritem Validity Gross Motor Development Questions

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MK1	11.66	3.824	.729	.802
MK2	11.61	4.083	.725	.808
MK3	11.52	3.735	.705	.807
MK4	11.83	4.208	.485	.866
MK5	11.64	3.625	.696	.810

Source: Test results 90 respondents

Table 4. Analysis of the Validity Questionnaire Test for Gross Motor Variables

No	Corrected Item- Total Correlation (r count)	r table	Note:
MK1	0.729	>0.205	Valid
MK2	0.725	>0.205	Valid
MK3	0.705	>0.205	Valid
MK4	0.485	>0.205	Valid
MK5	0.696	>0.205	Valid

Table 4. Calculation of Peritem Validity Questions for Intelligence Development

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
KA1	11.39	6.105	.777	.898
KA2	11.14	5.810	.836	.886
KA3	11.00	5.730	.750	.905
KA4	11.26	6.013	.751	.903
KA5	11.39	5.926	.816	.890

Source: Test Results 90 Respondents

Table 5. Analysis of the Validity of Questionnaire Tests for Variable Intelligence Development

No	Corrected Item- Total Correlation (r count)	r table	Note:
KA1	0.777	>0.205	Valid
KA2	0.836	>0.205	Valid
KA3	0.750	>0.205	Valid
KA4	0.751	>0.205	Valid
KA5	0.816	>0.205	Valid

DOI: 10.31004/obsesi.v6i6.3474

Reliability Test

After the items were tested for validity, the valid items were re-tested into reality. To test the reliability of the questions, the *Alpha Cronbach formula was used* with the help of the *SPSS version 19 software* program , and the results were as follows.

The results of the study above show that the price is 0.792 for the nutrition questionnaire, 0.850 for the gross motor development questionnaire, and 0.916 for the intelligence development questionnaire, meaning that this questionnaire is greater than the *critical number table, the value of r table for N = 90 with intervals (how to read the r table is N-2 so the number of the reader 88) on level trust 5% as big, 0.205 means 0.792 > 0.205,* 0.850 > 0.205, and 0.916 > 0.205, meaning that these three instruments have reliability values to be used as data collection tools.

Table 6. Nutritional Questionnaire Reliability Test Results

Reliability Statistics

Cronbach's Alpha	N of Items
.792	5

Table 7. Reliability Test Results of Gross Motor Development Questionnaire

Reliability Statistics

Cronbach's Alpha	N of Items
.850	5

Table 8. Intelligence Development Questionnaire Reliability Test Results

Reliability Statistics

Cronbach's Alpha	N of Items
.916	5

Food intake is the total amount of food and liquids the body consumes each day. Food intake is typically investigated in relation to the nutritional status of a community, a person, or both. In particular, this data can be utilized to create menus or other interventions to boost human resources (HR), starting with the current state of health, nutrition, and productivity (Eadie et al., 2021). One method of predicting a community group's or individual's nutritional condition is by learning how much food they consume. Food intake, in general, is knowledge of the quantity and kind of food eaten or ingested by a person or group of individuals at a specific moment. The body gets the vital elements it needs for growth and wellness from the food it consumes (Conkle & Martorell, 2019). Nutritional issues, which include undereating, poor digestion or absorption, and overeating, are linked to malnutrition. One form of malnutrition is malnutrition ingesting food is done. The growth and development of youngsters will then be impacted by this. Children's growth is evident from their dietary state. In addition to societal concerns like poverty or inadequate food provision from parents, toddlers' nutritional needs might also be problematic because at this age, the child is going through a period of very rapid growth and development. However, compared to younger

DOI: 10.31004/obsesi.v6i6.3474

children, their immune systems are still weak and more susceptible to infection. Additionally, there are health issues in the form of: bodily organ dysfunction, for instance, poor nutrient absorption leading to stunted growth in children. Early childhood is defined by Wheeler & Hill, (2021)as a child between the ages of 0 and 8. Early childhood is defined by Davies et al., (2021) as a child between the ages of 3-6. Early childhood is a special time in a kid's life where there is a pattern of growth and development in the physical, cognitive, socio-emotional, creative, linguistic, and special communication components that are suited to the stage the child is in.

Discussion

In order to improve nutrition in children aged five to six in the RA Purwasari District, the group arranges meals together and creates relevant lesson plans curriculum, establish learning objectives, plan learning resources, prepare learning media, compile learning steps, plan the allocation of learning time, plan assignments, plan an introduction to understanding balanced nutrition through communal eating, plan the arrangement of the room and learning facilities, plan procedures and types of assessment, and make tool evaluation. Planning in the context of education can be defined as the process of preparing the material, the use of media, approaches, and learning methods, as well as assessment, in an allocation of time to be carried out at a specific time to reach a predefined goal (Eadie et al., 2021).

From nevertheless, their immune system is still delicate and According to numerous definitions, the authors come to the conclusion that young children, those between the ages of 0 and 5, are those who are going through a period of physical and mental development. The "golden age" of childhood is often referenced on almost all future children go through a delicate period where they can grow and develop swiftly and greatly during this time. Because every person has a unique growth, no two children develop in the same way. For this growth and development, appropriate nutrition and intense stimulation are required. The youngster will be able to carry out developmental tasks well if the environment provides intense stimulation Lafave et al., (2021);Kurniah et al., (2019).

Interventions that are typically effective in other communities are not as helpful for children from slums, as has been observed for nutritional programs. Children from deprived urban settlements are typically more likely to experience developmental delay, lower achievement, and more behavioral and emotional issues than children living in more favored contexts (Istiqomah, 2017). The three nutritional requirements of young children are interrelated basic needs. One need cannot be satisfied at the expense of another, hence the three nutrients. For a child's growth and brain development to be at their best, early childhood education needs to be provided. Because early childhood's nutritional requirements take the shape of physical-biological. Naturally, children frequently get sick, and their brain development is subpar. If his desire for affection is not met, he will also have inadequate emotional intelligence. Conversely, if play is not stimulated in a variety of ways, cognitive growth will also be unbalanced. Therefore, early childhood nutritional intake needs to be balanced (Puspita & Delyana, 2019).

Relevant research conducted by Escolano-Pérez et al., (2020) with the title Specific Fine (But Not Gross) Motor Competencies of Preschoolers and Further Academic Competencies: Educational Implications The results showed that the two fine motor skills examined (Coordination and Integration) were associated with literacy and total academic ability (= 0.267, p = 0.065; = 0.493, p = 0.001, respectively). However, only Integration (= 0.476, p = 0.002) was associated with mathematical ability. Future research and the pedagogical implications of these findings are the main topics of the “Discussion” section. It emphasizes the importance of early assessment of fine motor skills to identify individuals who may exhibit substandard academic performance in the future and the need to implement training and care that is appropriate to each child's individual needs.

DOI: 10.31004/obsesi.v6i6.3474

Because based on the trial, this instrument is fully valid and reliable, so this instrument can be used for measurements in the context of collecting nutritional data on gross motor development and intelligence of children in Raudhatul Athfal (RA) in Purwasari District. Therefore why early childhood nutritional intake must be considered, especially in the first 5 years of life life because the nutritional intake of early childhood at that time is important and will influence and determine the future development of children.

Conclusion

Children aged 5-6 years in RA Kindergarten in Purwasari District have a better understanding of balanced nutrition through eating together. Management and analysis of the author's data shows a positive relationship between child nutrition and gross motor development in RA Purwasari District which is indicated by a value of 0.340. It can be seen that r count is greater than r table, or 0.340 > 0.205, which indicates that there is a significant correlation (relationship) between the two variables in the product moment r table value at N = 90 child nutrition and body weight. the motor of growth in RA Purwasari Regency.

Based on the management and data analysis that the author did, there is a positive relationship between nutrition and the development of children's intelligence in RA Purwasari District which can be seen from the value of 0.297. Where seen in the value of the product moment r table at N = 90 shows the value of r at a significant level of 5% = 0.205, thus it can be seen that the r count is greater than the r table or 0.297 > 0.205, which means there is a significant influence. correlation (relationship) between nutrition and the development of children's intelligence in RA Purwasari District. In essence, nutrition is food that is beneficial to health.

Acknowledgment

The author would like to thank parents, village heads, and early childhood Raudhatul Athfal (RA) in Purwasari District, Karawang Regency, who are willing to be samples in this study.

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