



The Relationship of Mother Characteristics and Childhood Nutrition Status to the Rough Motor of Toddlers 3-5 Years Old

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Abstract

Toddlers aged 3-5 years are at an ideal period in the development process, especially in gross motor development. Gross motor skills are toddlers' ability to move by involving body structures and functions. The gross motor skills of toddlers can be influenced by several factors, namely maternal characteristics and nutritional status. The features of mothers involved in gross motor include knowledge, education, employment, and mother's care. It is also a factor in the nutritional status of children, so it will indirectly be connected to the child's motor. This study used a cross-sectional design with purposive sampling techniques; the study sample comprised 37 respondents from toddlers and their mothers. The research was conducted at the Children's Poly, Kartika Pulomas Hospital, East Jakarta. The data measured were toddlers' nutritional and gross motor status using the DDST screening format. The characteristics of respondents in the normal gross motor category were 16 toddlers (43.2%), while toddlers with suspected gross motor were 21 toddlers (56.8%). The bivariate analysis results showed that knowledge, maternal parenting, and nutritional status had a significant relationship with gross motor with a p-value of < 0.05 . Age, education, and occupation had no association with gross motor with p-value > 0.05 .

Keywords: gross motor; toddlers, nutritional status; maternal characteristics

INTRODUCTION

Toddlers aged 3-5 years are children who have an ideal time to learn a physical motor skill. Motor development is the process of a person's skill in using or moving his limbs. The development consists of two aspects, namely gross motor and fine motor—the difference between the two lies in using muscles to create a movement. Gross motor movement helps large muscles or limbs, while a fine engine uses smooth muscles or specific body parts to make movements (Fatmawati, 2020).

Development is in the phase of fundamental movement at 3-5 years old. There are three stages in the phase, namely *the initial stage* (2-3 years), *the emerging elementary stage* (3-5 years), and the *proficient stage* (5-7 years). Fine motor skills are not fully formed at this age, but gross motor skills are developing rapidly. Gross motor skills at this age consist of images of balance (standing on one leg), locomotor (jumping), and other things such as dancing, cycling and straight walking (Gallahue et al., 2019).

The motor ability of a toddler can be influenced by the characteristics of the mother, namely the age level of maturity of the mother, the knowledge of the mother, the level of education of the mother, and the employment status of the mother (Fitri, Rahma D, 2015). Maternal characteristics

are related to child growth and development; mothers are significant in toddler growth and development. Mothers play an essential role in the process of child development, and this is because mothers are the closest parents to the process of toddler growth and development through the food intake given. Mothers will nurture, educate, and provide toddlers with basic needs to grow and develop appropriately according to their age and needs. (Ayu, Thabita & Kili, A 2012).

Maternal characteristics affect dietary intake factors that are very important in toddler development. Toddlers will experience delays in their development if they experience nutritional deficiencies (Masganti, 2017). Dietary needs are a top priority for optimal balance of activities. If the nutritional intake is balanced, it will produce an excellent nutritional status (Ministry of Health, 2017). In addition to maternal characteristics, motor development is also due to the nutritional status of toddlers. According to research, Riza Nely Oktaviana (2017) showed that malnourished toddlers have less impairment in the process of motor development, while toddlers with good nutritional status will have good motor development.

Based on Basic Health Research (Riskesdas) in 2018). In Riskesdas 2018, there was a malnutrition prevalence rate of 17.7% of wasting toddlers and 29.9% of *stunted toddlers*. The *wasting* rate consists of 3.9% of toddlers with malnutrition and 13.8% of toddlers with malnutrition (Ministry of Health, 2018). The prevalence rate in DKI Jakarta Province increased by 4.7%, compared to 2.92% in 2019. Meanwhile, the prevalence of undernutrition in East Jakarta City is 5.59%, the prevalence of stunting toddlers is 8.41%, and the prevalence of underweight toddlers is 5.05% (DKI Jakarta Health Profile, 2020).

Based on this background, researchers are interested in conducting research analysis related to the study, knowledge, education, employment, and workability aged 3 – 5 tahun di Children's Poly Kartika Pulomas Hospital East Jakarta.

METHOD

This study used a *cross-sectional* observational analytical research design. Free data includes maternal characteristics (age, knowledge, education, occupation, and foster pattern) and nutritional status. In contrast, the dependent variable data is the gross motor skills of children aged 3-5 years collected at the same time. The research location occurs at Rumah Sakit Kartika Pulomas, East Jakarta, in June 2023. The subjects of the study amounted to 37 people with inclusion criteria, namely: 1) Toddlers aged 3-5 years who were with their biological mothers, 2) had biological mothers, and 3) could read and write.

The data collected include subject characteristics, anthropometry, toddlers' gross motor development, knowledge, and mothers' parenting. Toddler weight was measured directly using a digital scale. The height of toddlers was measured using a *stature meter*. Nutritional status was assessed based on weight-for-height using a *z-score* according to the standard deviation value in Indonesian Anthropometric FMD in 2020. The nutritional status of toddlers based on the weight-for-height index is categorized into underweight, normal, overweight, and obese. DDST (Denver

Developmental Screening Test) screening assesses toddlers' gross motor development with results consisting of normal and suspect. The mother's knowledge was assessed by using a questionnaire with the provision that the value is 0 if the answer is wrong and the value is 1 if the answer is correct. The total score is categorized into Less if correct <50% and Good if the answer is correct >50% of the total score. As for the parenting style, mothers were assessed using questionnaires with the provision that the selection agrees or disagrees with points in the form of positive and negative parenting actions. fisher test

Then, the data was obtained by editing, coding, and tabulating. Next, conduct univariate analysis to determine the distribution of variables based on percent and average. After that, conduct a bivariate analysis using a chi-square test on the relationship between age, education, occupation, parenting style, and nutritional status of gross motor toddlers and on maternal knowledge of motor toddlers.

RESULT AND DISCUSSION

Subject Characteristics

Table 1. Characteristics of Toddlers

| Characteristics of Toddlers | | Frequency (n = 37) | Percentage (%) |
|--------------------------------|----------------|-------------------------|----------------|
| Gender | Man | 20 | 54,1 |
| | Woman | 17 | 45.9 |
| Age of Toddler | 3 Years | 17 | 45,9 |
| | 4 Years | 9 | 24,3 |
| | 5 Years | 11 | 29,7 |
| Nutritional Status of Toddlers | Undernutrition | 7 | 18,9 |
| | Normal | 19 | 51,4 |
| | Overweight | 10 | 27,0 |
| | Obese | 1 | 2,7 |
| Total | | 37 | 100 |

The number of subjects aged 3-5 years consisting of male toddlers was 20 (51.1%) and 17 female (45.9%). Toddlers aged three years old were 17 (45.9%), four years old 9 (24.3%), and five years old were 11 (29.7%). Nutritional status of toddlers who were undernutrition as many as seven toddlers (18.9%), typical 19 toddlers (51.4%), overweight ten toddlers (27.0%), and obese one toddler (2.7%).

Table 2. Maternal characteristics

| | | Frequency (n = 37) | Percentage (%) |
|--------------------------------|-------------------|-------------------------|----------------|
| Mother's Age | < 20 Years | 0 | 0 |
| | 20-35 Years | 19 | 51,4 |
| | < 35 Years | 38 | 48,6 |
| Risk Criteria for Maternal Age | Risk | 19 | 51,4 |
| | No Risk | 18 | 48,6 |
| Mother's Knowledge | Good | 30 | 81,1 |
| | Less | 7 | 18,9 |
| Education Level | Low | 14 | 37,8 |
| | Tall | 23 | 62,2 |
| Education Level | JUNIOR | 14 | 37,8 |
| | Senior (SMA) | 15 | 40,5 |
| | Senior (SMK) | 2 | 5,4 |
| | Diploma 3 | 1 | 2,7 |
| | Bachelor | 5 | 13,5 |
| Work | Housewives | 21 | 56,8 |
| | Private Employees | 8 | 21,6 |
| | Civil servants | 1 | 2,7 |
| | Self-employed | 3 | 8,1 |
| | Merchant | 4 | 10,8 |
| Mother's Parenting | Positive | 24 | 64,9 |
| | Negative | 13 | 35,1 |
| Total | | 37 | 100 |

The number of subjects for maternal characteristics were obtained for the age of mothers not at risk, namely the age range of 20-35 years, as many as 19 respondents (51.4%) and the age of < 35 years, as many as 38 respondents (48.6%). There were 30 well-knowledgeable mothers (81.1%) and seven respondents less knowledgeable (18.9%). The majority of 23 respondents (62.2%) who were educated consisted of high school, diploma, and bachelor graduates. Most of the mothers work as housewives who do not work as many as 21 respondents (56.8%). There were 24 mothers (64.9%) who had positive parenting styles.

Gross Motor Skills of Toddlers

Table 3. Gross Motor Skills of Toddlers

| Gross Motor Skills of Toddlers | Frequency (n = 37) | Percentage (%) |
|--------------------------------|-------------------------|----------------|
| Usual | 16 | 43,2 |
| Specs | 21 | 56,8 |
| Total | 37 | 100 |

After conducting DDST *screening* on toddlers to determine their gross motor development, 16 (43.2%) had normal gross motor development, and 21 (56.8%) had suspected gross motor skills.

The Relationship of Maternal Age to Gross Motor Skills of Toddlers

Table 4. Results of Age Correlation Test on Gross Motor of Toddlers

| | | Gross Motor Skills of Toddlers | | | | p |
|--------------|---------|--------------------------------|------|-------|------|-------|
| | | Usual | | Specs | | |
| | | n | % | n | % | |
| Mother's Age | Risk | 6 | 30 | 14 | 70 | 0,153 |
| | No Risk | 10 | 58,8 | 7 | 41,2 | |
| Total | | 16 | 43,2 | 21 | 56,8 | |

Based on the correlation between the mother's age and the children's gross motor, the chi-square test resulted in a p-value of 0.0153 ($\alpha > 0.05$), which is more than 0.05, so H_0 is accepted. This means that statistically, there is no significant relationship between the mother's ability to do so. The study results were that mothers aged 20-35 were not at risk of having toddlers with standard gross motor skills and suspects, and mothers aged 35 and over were at risk age. The spread of children under five with standard gross motor in mothers of at-risk age was only six respondents (30%) with typical gross motor toddlers, and 17 mothers (70%) had toddlers with suspected gross motor skills. Furthermore, mothers with no age category were at risk of having toddlers with standard gross motor in 10 (58.8%) and toddlers with suspected gross motor in 7 (41.2%). Sixteen toddlers (43.2%) with average gross motor skills and 21 (56.8%) with suspected gross motor skills were obtained. The data shows that the mother's age did not affect the gross motor of toddlers.

The Relationship of Maternal Knowledge to Gross Motor Skills of Toddlers

Table 5. Knowledge of Gross Motor Skills of Toddlers

| | | Gross Motor Skills of Toddlers | | | | P |
|--------------------|------|--------------------------------|------|-------|------|-------|
| | | Usual | | Specs | | |
| | | n | % | n | % | |
| Mother's Knowledge | Good | 16 | 53,3 | 14 | 46,7 | 0,011 |
| | Less | 0 | 0 | 7 | 100 | |
| Total | | 16 | 43,2 | 21 | 56,8 | |

Table 5 showed that in mothers with good knowledge, there were 16 toddlers with standard gross motor (53.3%) and 14 toddlers with suspected gross motor (46.7%). While mothers who have less knowledge all have toddlers with suspected gross motor.

Based on the correlation test between knowledge of children's gross motor and uji *fisher*, results were obtained that stated a significant relationship exists between mothers' knowledge of toddlers' gross motor skills with a p-value of 0.011 ($\alpha < 0.005$).

The Relationship of Education to Gross Motor Skills of Toddlers

Table 6. Mother's Education of Toddlers Gross Motor

| | | Gross Motor Skills of Toddlers | | | | p |
|-----------|------|--------------------------------|------|-------|------|------|
| | | Usual | | Specs | | |
| | | n | % | n | % | |
| Education | High | 3 | 21,4 | 11 | 78,6 | 0,81 |
| | Low | 13 | 56,5 | 10 | 43,5 | |
| Total | | 16 | 43,2 | 21 | 56,8 | |

The calculation of the correlation between the mother's education and the toddler's gross motor using *chi-square* on the variable of the mother's education gets a value of $p = 0.081$ ($\alpha > 0.05$), meaning that there is a relationship between the mother's education and the gross motor of toddlers. It could be concluded that for mothers with low education levels, three mothers (21.4%) had toddlers with gross motor with regular assessment, and the remaining 11 mothers (78.6 %) had toddlers with suspect gross motor assessment. At the higher education level, 13 mothers (56.5%) had gross motor toddlers with regular assessments, and 10 mothers (43.5%) had toddlers with suspected gross motor assessments.

The Relationship of Mother's Work to Gross Motor Skills of Toddlers

Table 7. Mother's work on gross motor

| | | Gross Motor Skills of Toddlers | | | | P |
|-------|-------------|--------------------------------|------|-------|------|-------|
| | | Usual | | Specs | | |
| | | N | % | n | % | |
| Work | Work | 9 | 56,3 | 7 | 43,8 | 0,290 |
| | Not Working | 7 | 33,3 | 14 | 76,7 | |
| Total | | 16 | 43,2 | 21 | 56,8 | |

The calculation of the correlation between the mother's work on the gross motor of the toddler showed the variable mother's work gets the value $p = 0.1290$ ($\alpha > 0.05$), meaning that there was no relationship between the mother's work and the gross motor skills of toddlers. It can be concluded that nine working mothers (56.3%) have toddlers with motor skills who have regular assessments, and the remaining seven mothers (43.8%) have toddlers who have suspected gross motor assessments. While at the higher education level, seven mothers (33.3%) had gross motor toddlers with regular assessments, and 21 mothers (66.7%) had toddlers with suspected gross motor assessments.

The Relationship of Mother's Parenting Style to Gross Motor Skills of Toddlers

Table 8. Mother's Parenting of Gross Motor

| | | Gross Motor Skills of Toddlers | | | | P |
|-----------|----------|--------------------------------|------|-------|------|-------|
| | | Usual | | Specs | | |
| | | n | % | n | % | |
| Parenting | Positive | 16 | 66,7 | 8 | 33,3 | 0,000 |
| | Negative | 0 | 0,0 | 13 | 100 | |
| Total | | 16 | 43,2 | 21 | 56,8 | |

The calculation of the correlation between parenting style and the gross motor of toddlers showed the mother's parenting style variable getting a value of $p = 0.000$ ($\alpha < 0.05$), meaning there was a relationship between the mother's work and gross motor of toddlers. Of respondents with positive parenting mothers, 16 mothers (66.7%) had toddlers with motor skills with standard assessment, and the remaining eight mothers (33.3 %) had suspect gross motor assessments. While in mothers with negative parenting patterns, all had toddlers with gross motor assessments of suspect with 13 respondents (100%).

The Relationship of Nutritional Status to Gross Motor Skills of Toddlers

Table 9. Nutritional Status of Gross Motor Toddlers

| | | Gross Motor Skills of Toddlers | | | | P |
|--------------------|-------------|--------------------------------|------|-------|------|-------|
| | | Usual | | Specs | | |
| | | n | % | n | % | |
| Nutritional Status | Usual | 13 | 68,4 | 6 | 31,6 | 0,000 |
| | Problematic | 3 | 16,7 | 15 | 83,3 | |
| Total | | 16 | 43,2 | 21 | 56,8 | |

The results of the correlation test of *the chi-square* test on SPSS obtained results stating that there was no significant relationship between maternal work and the gross motor of toddlers with a p-value of 0.004 ($\alpha < 0.005$), showed the results that there were toddlers with normal nutritional status as many as 13 toddlers (68.4%) experienced standard gross motor. The remaining six toddlers (33.3%) had suspected gross motor skills. As for toddlers with malnutrition, three toddlers (16.7%) had average gross motor skills, and 15 had suspected gross motor skills (83.3).

The relationship between mothers' characteristics and toddlers' gross motor skills was insignificant. In line with the research of Novi Indrayani and Sitti Khadijah about relationship characteristics of mother towards toddlers growth aged 12-60 in 2020, which states that the age and motor development of children aged 6-24 months consisting of 9 mothers (30%) with approximately 20 years of age, 20 mothers (66.7%) with the age of 21-35 years and one mother (3.3%) with the age of over 35 years did not have a significant difference in children's motor, the study revealed that there was no relationship between the age of mothers against gross motor of children with p-value (0.573) (Indrayani, and Siti, 2020).

According to Notoadmodjo (2010), a mother with a suitable age will have experience and a mature mindset to take care of toddlers, so it is difficult to change their parenting patterns. The older a mother is, the more mature level of maturity and strength of a mother will be more mature in thinking and working. This aligns with research by Agus Warseno and Hidayatus Solihah in the Malang Nursing Journal in 2019, stating that even though mothers are in the old age category, they still have experience parenting children in the past. This study also explains that a mother aged 18-40 plays a more active role in society and social life, affecting how mothers receive information to increase knowledge about good parenting (Agus et al., 2019).

The relationship between maternal knowledge and toddlers' gross motor states that there was a significant relationship, in line with research in the journal "Factors which related to the development of toddlers gross motor at Meureudu Health Center by Savira Usрати in 2022" shows that maternal knowledge is related to gross motor development in toddlers. Mothers with less knowledge affect their toddlers' development, which results in toddlers experiencing abnormal

motor development. Meanwhile, well-advised mothers are more active in seeking information about motor development, thus creating a toddler who experiences motor development under his achievements (Usrati, 2022).

In this study, mothers with good knowledge understand how they put their best efforts, such as paying attention to child development, to create toddlers with normal gross motor skills. This can be seen from the mothers' results in answering questionnaires about knowledge of toddler motor development and toddler nutrition. Mother's knowledge was also affected by the maternal age factor in respondents, most of whom were mature. Factors that affect maternal knowledge include age, education, occupation, and, in addition, are influenced by experience factors. The older a mother is, the more able she will be to solve complex problems. So, good knowledge of mothers causes mothers to be responsive in solving the problems of their toddler development (Wiwik et al. A & Buntar G, 2011).

According to Abdul Muchid, Amin Samiasih, and Mariyam in the Journal of Nursing Fikkes (2013), mothers' knowledge affects children's gross motor; it is assumed that mothers with good knowledge have children whose motor development is expected. Mothers with less knowledge lack the ability to care for, nurture, and monitor gross motor development in toddlers. Therefore, it explains that knowledge is very influential on the gross motor development of toddlers, which directly impacts how a mother can care for and nurture toddlers according to her knowledge (Abdul et al., 2013).

The relationship between maternal education and gross motor in this study shows no relationship between maternal education and gross motor skills in children. This test is inversely proportional to the research "Relationship between knowledge, Attitude, and Practices of mothers towards toddlers Gross motor 3-5 years in the Lamasi Health Center," which showed a relationship between maternal education and toddler development. A mother with less education is less able to arrange food that meets the needs to grow and develop compared to a mother who is highly educated. A mother's education level has an effect on the information obtained. Poor maternal knowledge can inhibit the improvement of nutritional status in toddlers. Mothers' knowledge really influences decision-making to provide proper nutrition for children. Lack of knowledge will impact mothers' decision-making in improving nutritional status (Ningrum, 2017).

However, in this study, education did not affect toddlers' gross motor skills, and there was no significant difference between higher and lower education. This research is more directed as in the midwifery journal "Maternal Characteristics of Toddlers Growth" by Novi Indrayani in 2020, which states there was no relationship between education and child development because there may be other factors that affect child development outcomes (Indrayani, Novi 2020).

According to research by Rhiza Caesari Kristata in 2012, there is no significant relationship between education and gross motor development of toddlers because maternal education may not be directly related to motor development. Although increasing the level of education will also increase the socioeconomic status, where the opportunity To obtain information about gross motor

development is more significant, it is not always followed by changes in maternal behavior to carry out good parenting, so it is concluded that maternal education is also not a factor that affects maternal parenting (Kristata et al., 2012).

The relationship between maternal work and the gross motor of toddlers in this study was not significantly related to the gross motor skills of toddlers. This research is in line with "Mother's characteristic towards Toddlers Growth" by Novi Indrayani in 2020, which stated that there was no relationship between mother's work on child development and $p = \text{value } 0.182$ because it does not have a significant difference in the influence of mothers who work with mothers only as housewives on child development. A job that makes people work or not can determine how much time you spend with their child. However, in this study, the mother's work did not have a significant relationship that affected the gross motor development of toddlers. In Rhiza Caesari Kritata's research in 2012, a mother's job is usually associated with parenting because much time is spent with children. However, in her research, working mothers still have children with good gross motor skills because even though the mother Works, most of the care is left to other family members so that it can replace the function of parenting. So, it can be concluded that the mother's work does not reduce children's gross motor development if other parenting functions, such as stimulus, can still be carried out by family members other than the mother (Kristata et al., 2012).

The relationship between the mother's parenting style and toddlers' gross motor skills is significant. This is comparable to Refi Yulita's research in 2014, revealing that parenting styles, one of which is motherhood, stated that parenting styles are positive and negative. A toddler's development will be well related to how the interaction between the mother and the toddler is created. A mother will pay attention to how the child's growth and development are also related to environmental factors, for example, the high motivation of posyandu cadres. Suppose the environment does not support and guide a mother to pay attention to the development of her toddler. In that case, a mother's parenting style will be related to toddler development, more precisely to gross motor development (Yulita, Refi, 2014).

A mother's parenting style towards children is essential for the child's development process. A mother plays an obligatory role in supervising, nurturing, or guiding her toddler. After researching R.Imah Sakit Kartika, I found that most respondents' mothers play a vital role in raising their children. It can be seen from some mothers who immediately deliver their children when seeking treatment at the hospital and also from the results of answering questionnaires that mothers with positive parenting styles are getting better at parenting. Mother's parenting is essential so that setting and maintaining the child's diet remains good to bring out a good nutritional status and growth in the child. Nutritional status is influenced by parenting practices, parenting children on their development and growth. Poor parenting will impact nutrition that is not fulfilled, impacting the child's physique. Good parenting factors are influenced by your age and your education on how to know about nutrition (Yunita, 2021).

This study concludes that parenting is essential for the development process of toddlers,

especially the process of gross motor development of toddlers. Parenting is a mother's attitude related to toddlers, which can be seen in how a mother will arrange, educate, and give suitable lessons to each child. Good parenting produces a good mother's attitude to taking care of children to provide children with learning for the development process in gross motor (Subagia, I Nyoman, 2019).

The relationship of nutritional status to gross motor according to the study results showed a significant relationship between the nutritional status of toddlers and gross motor. This is comparable to Riza Nely Oktaviana's research in 2017, showing that malnourished toddlers have less impairment in motor development, while toddlers with good nutritional status will have good motor development (Oktaviana et al., 2017).

Meanwhile, research in the Indonesian Journal of Nutrition on the Nutritional Status and Development of Children aged 3-5 years in Bogor district in 2020 shows that toddler development is not only influenced by nutritional status. Several other factors will also affect a toddler's development, such as health support, environment, community culture, lifestyle, and psychosocial stimulation from the family, especially mothers, also play an essential role in ensuring that a toddler can develop by the proper achievements (Sarah et al. & Hadi Riyadi, 2020).

This study also states that thin, fat, or not, toddlers have different abilities in gross motor development. Some thin toddlers are still wobbly when jumping with one foot in number. While toddlers with normal nutrition can complete well, some reports of gross motor development. According to Masganti (2019), nutrition is an integral part of development; many malnourished children experience delays in their development, including gross motor development. Not only in the development of malnourished children, they will have more problems in health and also experience some problems with growth if they have less nutritional status (Masganti, 2019, p. 124).

CONCLUSION

Based on the study's results and discussion, most mothers aged 20-35 years are well-informed. Most mothers did not work, and many of them had positive parenting. There was no significant relationship between maternal age and toddlers' gross motor skills, with $p=0.153$. There was a significant relationship between maternal knowledge of toddlers' gross motor skills with $p=0.011$. There was a relationship between nutritional and gross motor education of toddlers with $p=0.081$. There was no relationship between the mother's work on the gross motor of toddlers with $p=0.290$. There was a relationship between the foster care and toddlers' gross motor with $p=0.000$. There was a relationship between nutritional status and gross motor skills of toddlers $p=0.04$.

REFERENCES

Afandim Achmad., (2019). *Textbook of Education and Motor Development*. Sidoarjo : Uwais

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- Andrayani, M & Wirjatmadi, B. (2012). *Introduction to Community Nutrition*. Jakarta : Kencana Buana Media Group
- Arikunto, S. (2013). *Research Procedure: A Practice Approach*. Jakarta: Rineka Cipta
- Dahlan, S. (2014). *Statistics for Medicine and Health*. Jakarta : Salemba Medika
- DKI JAKARTA Health Office. (2020). *DKI Jakarta Provincial Health Profile in 2020*
- Fauziah, N., Tunawidjaja, S., & Yunus, A., (2018). The relationship between the level of education and knowledge of mothers on infant development (0-12 months) in the city of Bandung. *Journal of Doctor Proceedings* (August 2018) Vol 4, No 1. <http://dx.doi.org/10.29313/kedokteran.v0i0.12669>
- Fikawati, S. (2017). *Child Nutrition in Adolescent Children*. Depok : Rajawali Press
- Fitri, R. D. (2015). *The Relationship of Maternal Characteristics with the Ability to Stimulate Gross Motor Development of Children Aged 0-12 Months in Bukit Meusara Village, Jantho City, Aceh Besar Regency*.
- Gallahue, O., & Goodway. (2019). *Understanding Motor Development: Infants, Children, Adolescent, adults Eight Edition*. New York: Jones & Barlett Learning
- Harahap, Halimatun S. (2021). *The relationship between maternal characteristics and the nutritional status of toddlers at the Padang Garugur Health Center, Padang Lawas Regency*. [Thesis]. FKM UIN SUMUT : Medan
- Hasdianah, H.S. Siyoto & Y. Peristyowati. (2014). *Nutritional Utilization of Nutrition, Diet and Obesity*. Yogyakarta : Nuha Medika
- Kartika Pulomas Hospital. (2022). *Kartika Pulomas Medical Record 2022*
- Khadijah & Amelia, N., (2020). *Early Childhood Physical Development Theory and Practice First Edition*
- Khomsan, A. (2008). *50 Healthy Menus for the Growth and Development of Children Aged 6-24 Months*. Jakarta: Kencana
- Labada, A., Ismanto, A. Y., & Kundre. R. (2016). *The Relationship between Maternal Characteristics and the Nutritional Status of Toddlers Visiting the Puskesmas Bahu Manado, Journal of Nursing 4, 1*.
- Lapua, B. (2013). *Health Research Methodology*. Jakarta : Yayasan Pustaka Obor Indonesia
- Lusiana, Evelin D & M. Mahmudi. (2020). *Theory and Practice of Univariate Data Analysis with Past*. Malang: UB Press
- Makhmudah, S., Anggraini, Fina S., Amalia, A., (2020). *AUD Motor Development*. English: Gupedia
- Meggitt, C., & Theodora, Agnes., (2013). *Understanding Child Development Self-Study Series Edition*. Jakarta: Index Team
- Ministry of Health of the Republic of Indonesia. (2018). *National Health Policy*
- Ministry of Health of the Republic of Indonesia. (2020). *Indonesia Health Profile 2020*

- Muchtar, D. H. (2011). *Six Pillars of Parenting*. Jakarta: ECG
- Oktaviana, Riza Nely. (2017). *The Relationship of Nutritional Status with Motor Development of Children Aged 3-5 Years in PAUD Bibrik Village, Jiwan District, Madiun Regency*. Madiun : Stikes Bhakti Husada
- Rhomadona, S. (2020). Overview of factors affecting motor development in toddlers aged 4-5 years at TK Siswa Harapan, Ciliwung – Surabaya. *Journal of Midwifery*, 9(1). <https://doi.org/10.47560/keb.v9i1.235>
- Rosidi, A, Syamsianah A. (2012). *Optimization of gross motor development and anthropometric measures of children under five at Posyandu "Balitaku Sayang" Kelurahan Jangli, Tembalang District, Semarang City, August 15, 2012*
- Salehi, S. K., Sheikh, M., & Talebrokni, F.S. (2017). *Comparison Exam Of Gallahue's Hourglass Model And Clark And Metcalfe's The Mountain Of Motor Development Metaphor*. *Journal Of Advances In Physical Education*, 2017, pp. 7, 217–23. <https://doi.org/10.4236/ape.2017.73018>
- Sevriani, Suyanti (20 22). *The relationship between mother's parenting in feeding and the incidence of stunting in toddlers in Jamberejo Village, Kedungadem District, Bojonegoro Regency*. [Thesis]. Vocational Faculty of Science and Health Technology of Medical Scholars: Jombang
- Stephiana, Olga (2017). *The role of the mother for child development: the influence of working mothers on cognitive development*. [Thesis]. FEB UI: Depok
- Sudirdjo, E. (2018). *Motor Growth and Development*. Sumedang : UPI Sumedang Press
- Sudirjo, E., & Alif, Muh. Nur., (2018). *Motor Growth and Development: The Concept of Physical Development and Growth and Human Motion*. Sumedang : UPI Sumedang Press
- Supariasa, I.N.D, (2014). *Nutritional Status Assessment*. Jakarta: EGC
- Surahman, B. (2019). The role of the mother in the future of the child. *Hawa Journal: Study of Gender and Child Flow*, 1(2). <https://doi.org/10.29300/hawapsga.v1i2.2600>
- Susanti, Santi (2020). *Description of childbirth complications in pregnant women with too-old age factors at Cisayong Health Center, Tasikmalaya Regency*. Tasikmalaya : College of Health Sciences Respati Tasikmalaya
- Tompunu, Nova A. (2015). *Superfood for Optimal Baby Growth and Development*. Jakarta: Fmedia
- Yuhansyah, Y., & Mira, M. (2019). *Overview of mothers' knowledge level about nutrition in children under five at UPT Puskesmas Remaja Kota Samarinda*. *Borneo Nursing Journal (BNJ)*, 1(1). 76-83. Retrieved from <https://akperysismd.e-journal.id/BNJ/article/view/11>
- Yunita et. All. (2021). *Mother's parenting is related to the nutritional status of toddlers*. Trlbuawana Tunggadewi University : Malang
- Yurissetiowati. (2021). *Early Childhood Development*. Klaten : Lakeisha Publisher by IKAPI Member No.181/JTE/2019