Jurnal Kesehatan dr. Soebandi
ISSN : 2302-7932 (Print)
ISSN : 2527-7529 (OnLine)

The Relationship Between Nutritional Status and The Development of Children Aged 4-60 Months

Yuningsih [1*], Asri Iman Sari[2], Ai Nur Zannah[3], Ririn Handayani[4]
[1,2,3,4] *Department of Midwifery, Faculty of Health Science, Universitas dr. Soebandi Jember,Indonesia*
*Correspondence author: yuningsih@uds.ac.id

Submited : 23 October 2023 ; Accepted : 17 October 2024

Doi: https://doi.org/10.36858/jkds.v12i2.689

ABSTRACT

Child development is an important aspect of human life, especially in the early period of life, which is often referred to as the critical or golden period as the child's brain undergoes rapid growth. Developmental disorders in children under five, especially in terms of motor skills, have a long-term impact on their development, and a child's nutritional status has been shown to play a role in the process. Therefore, this study aims to determine the relationship between nutritional status and development of children aged 4-60 months in Jember Regency. The research method used was a quantitative correlational approach with a cross-sectional approach, involving a total of 57 children who had a Kartu Menuju Sehat (KMS) as the population. From the results of the formula calculation, the sample size was determined as 50 respondents using a non-randomized (non-probability) method, namely purposive sampling based on certain criteria. The research instruments involved the Kartu Menuju Sehat (KMS) to assess children's nutritional status and the Developmental Pre-Screening Questionnaire (KPSP) to identify children's development. The results of the chi-square statistical test revealed a significant relationship between nutritional status and development of children aged 4-60 months in Jember District. [Children with good nutritional status show more optimal developmental progress, while children with poor nutritional status tend to experience slower or inappropriate development for their age. This finding supports theories that emphasize the importance of adequate nutrition for children's growth and development. Therefore, efforts to improve children's nutritional status should be a top priority in various child health and education programs. With the right understanding and action, we can help create a healthier and more potential future generation.

Keyword: Child Development, Nutritional Status, Children.

ABSTRAK

Perkembangan anak adalah aspek penting dalam kehidupan manusia, terutama pada periode awal kehidupan yang sering disebut sebagai periode kritis atau emas karena otak anak mengalami pertumbuhan pesat. Gangguan perkembangan pada anak balita, terutama dalam hal kemampuan motorik, memiliki dampak jangka panjang pada perkembangan mereka, dan status gizi anak telah terbukti berperan dalam proses tersebut. Beberapa anak yang mempunyai status gizi kurang dan stunting setelah dilakukan pemeriksaan perkembangan banyak yang mengalami keterlambatan.Oleh karena itu, penelitian ini bertujuan untuk menentukan hubungan antara status gizi dan perkembangan anak usia 4-60 bulan di Kabupaten Jember. Metode penelitian yang digunakan adalah pendekatan kuantitatif korelasional dengan pendekatan lintas-seksi, melibatkan total 57 anak yang memiliki Kartu Menuju Sehat (KMS) sebagai populasi. Dari hasil perhitungan formula, jumlah sampel ditentukan sebanyak 50 responden dengan menggunakan metode non-acak (non-probabilitas) yaitu purposive sampling berdasarkan kriteria tertentu. Instrumen penelitian melibatkan Kartu Menuju Sehat (KMS) untuk menilai status gizi anak dan Kuesioner Pra Skrining Perkembangan (KPSP) untuk mengidentifikasi perkembangan anak. Hasil uji statistik chi-square dapat dihasilkan ada hubungan yang signifikan antara status gizi dan perkembangan anak usia 4-60 bulan di Kabupaten Jember. Anak dengan status gizi baik menunjukkan kemajuan perkembangan yang lebih optimal, sementara anak dengan status gizi kurang cenderung mengalami perkembangan yang lebih lambat atau tidak sesuai dengan usia mereka. Temuan ini mendukung teori yang menekankan pentingnya asupan gizi yang memadai bagi pertumbuhan dan perkembangan anak. Oleh karena itu, upaya untuk meningkatkan status gizi anak harus menjadi prioritas utama dalam berbagai program kesehatan dan pendidikan anak. Dengan pemahaman dan tindakan yang tepat, kita dapat membantu menciptakan generasi masa depan yang lebih sehat dan berpotensi.

Kata Kunci: *Perkembangan Anak, Status Gizi, Anak*

*Correspondence author: yuningsih@uds.ac.id

How to cite : Yuningsih. The Relationship Between Nutritional Status And The Development Of Children Aged 4-60 Months . *Jurnal Kesehatan Dr. Soebandi*, *12*(2).89-96 https://doi.org/10.36858/jkds.v12i2.689

Jurnal Kesehatan dr. Soebandi
ISSN : 2302-7932 (Prin
ISSN : 2527-7529 (OnLi

Introduction:

Development is a continuous and dynamic journey that spans a person's entire life, commencing from conception and extending until the final stages of life (Rivanica & Oxyandi, 2018). The initial phase of this developmental trajectory, known as early childhood development, holds paramount significance as it lays the groundwork for subsequent growth and maturation. Often characterized as the critical or golden period, this stage (Putriana et al., 2019) is marked by its brevity and profound impact on shaping various facets of an individual's life. The rapid growth of a child's brain during this period is particularly noteworthy, with the intricate networks of brain cells serving as pivotal controllers of diverse human activities and qualities (Setianingsih, 2018). This underscores the crucial role played by early childhood development in establishing a robust foundation for a person's overall well-being and capabilities.

In 2017, data from the World Health Organization (WHO) reported that 5-25% of preschool-aged children suffer from minor brain dysfunction, including fine motor development disorders. In Indonesia, in the year 2017, developmental disorders in toddlers were reported at 13-18%, including issues related to fine and gross motor development, hearing impairments, intellectual deficits, and speech delays (Aprilasari, 2017). In the year 2018, within the East Java province, the development of children aged 3-5 was assessed, revealing a literacy numeracy rate of 70%, physical abilities at 98.1%, social-emotional competence at 72%, and learning abilities at 98.2%. In the city of Jember in 2018, approximately 16% of toddlers experienced developmental issues, which encompassed brain development disorders, hearing impairments, and motor development disorders. Notably, the prevalence of speech and language delays in school-aged children was observed at 5%-10% (BPS, 2018). Particularly noteworthy was the observation that the prevalence of speech and language delays among school-aged children stood at 5%-10%. These statistics underscore the importance of addressing and understanding developmental issues to ensure comprehensive and targeted support for children's well-rounded growth and capabilities.

Napitupulu (2018), in his journal, reveals that there are several interconnected aspects crucial to a child's development. Progress in one aspect will affect the others. Each child will experience optimal development when all aspects develop well. In the realm of motor development, there are two types: gross motor skills and fine motor skills. Gross motor skills involve a child's ability to control body movements, such as crawling, walking, running, tiptoeing, maintaining balance, jumping, climbing, rolling, or swimming, all achieved through their own efforts. Fine motor skills, on the other hand, can be observed in a child's ability to touch, pick up, draw, fold, or put a spoon in their mouth through their everyday learning efforts. (Napitupulu, 2018). This intricate interplay highlights the significance of recognizing and nurturing both gross and fine motor skills to ensure a holistic and balanced developmental trajectory for every child.

One of the factors that influences a child's development is their nutritional status. Adequate and balanced nutrition is essential for children because it can have a positive impact on their development. Therefore, nutritional status can be utilized to minimize or prevent issues in the child's developmental process. Nutritional status is one of the indicators for assessing a child's health. Optimal development is facilitated by good nutritional status. Monitoring nutritional status can be utilized as a preventive measure in planning improvements to a child's health since it can assist in early detection of health risks in children. A child's nutritional status can impact their growth and development (Yunita, 2021).

The Nutritional Status SSGI 2022 report for Indonesia highlights a discernible trend in the prevalence of undernourished toddlers, indicating a slight uptick of 0.1% to reach 17.1% in the year 2022. A more granular analysis within East Java reveals that the

percentage of underweight toddlers, as measured by the Weight-for-Age Z-score (WAZ), stood at 15.8% during the same period. The situation in Lumajang, however, paints a distinctive picture, as the percentage of underweight children (WAZ) remains notably elevated, securing a position among the top 6 in East Java at 20.1%. This regional disparity underscores the localized nature of nutritional challenges faced by specific communities. A closer examination of Lumajang's nutritional landscape, as documented in the e-PPGBM report from the Bades Community Health Center, reveals nuanced statistics. The data indicates that the percentage of underweight children (WAZ) is 1.87%, while those with low body weight constitute a substantial 12.48%. Remarkably, the majority of children in Lumajang have normal body weight, accounting for 85.64% of the population. These findings, sourced from the Ministry of Health (2022), underscore the need for targeted interventions and community-specific strategies to address the persistently high levels of underweight children in Lumajang, contributing to the broader discourse on childhood undernutrition in Indonesia (Ministry of Health, 2022).

The study conducted by Napitupulu (2017) underscores the profound impact of nutritional supplementation on motor development in children, revealing notable variations in development rates. Findings indicate that approximately 66.7% of children exhibit sluggish gross motor development attributable to insufficient energy intake, while an even higher proportion, around 80%, experience disruptions in gross motor skills due to a deficiency in protein intake. This highlights the intricate relationship between specific nutrient deficiencies and distinct facets of motor development in children. In essence, the results emphasize the crucial role of proper nutritional intake in fostering a child's growth and development. Nutrients emerge as pivotal contributors to a child's overall development, particularly in the realm of motor skills. The intricate interplay between energy, protein intake, and motor development underscores the importance of a holistic approach to childhood nutrition. Building on this understanding, the study by Rindhani (2021) at Al-Rasyid Kindergarten in the Marpoyan Damai Subdistrict of Pekanbaru provides further evidence supporting the correlation between nutritional status and child development. The findings reveal a compelling relationship, wherein 66.7% of toddlers with inadequate nutritional status demonstrated slower or development misaligned with their age. In contrast, among toddlers with normal nutritional status, only 32.8% exhibited delayed or age-inappropriate development. These insights reinforce the notion that addressing nutritional inadequacies is crucial for optimizing developmental outcomes in children, emphasizing the need for targeted interventions to enhance nutritional well-being and promote holistic child development.

Based on the background information given above, the research question in this study is whether there is a relationship between Nutritional Status and the Development of Children aged 4-60 Months. This study was conducted on all children aged 4-60 months who were examined to compare their growth and development as these children are rarely examined for development.

Methods:

The research is classified as a quantitative correlational study employing a cross-sectional approach to investigate the subject matter comprehensively. The research population encompasses all children aged 4-60 months possessing a Healthy Growth Card (Kartu Menuju Sehat or KMS), totaling 57 children. Employing formulaic calculations, the determined sample size for the study is 50 respondents. The sampling technique employed is a non-random (non-probability) approach known as purposive sampling, which involves the intentional selection of samples based on predetermined specific criteria. The sample criteria in this study were toddlers aged 4 months to 60 months in good health. Two distinct instruments are utilized in this study to gather comprehensive data. The Healthy

Jurnal Kesehatan dr. Soebandi
ISSN : 2302-7932 (Prin
ISSN : 2527-7529 (OnLi

Growth Card (KMS) serves as a crucial tool for assessing the nutritional status of children aged 3-5 years, providing essential insights into their health and growth trajectories. Simultaneously, the Developmental Pre-Screening Questionnaire (KPSP) is deployed to systematically identify and evaluate the developmental milestones of children within the same age group. These instruments collectively contribute to a holistic understanding of the factors influencing both the nutritional and developmental dimensions of the targeted demographic. To derive meaningful insights, the collected data will undergo a rigorous analytical process utilizing two distinct methods. Univariate analysis will be employed to scrutinize individual variables independently, offering a detailed examination of each variable's characteristics. Concurrently, bivariate analysis, focusing on relationships between variables, will be conducted to unveil potential correlations or associations. This multifaceted analytical approach ensures a nuanced exploration of the intricate interplay between nutritional status and developmental milestones among children aged 3-5 years, fostering a more comprehensive comprehension of the study's overarching objectives. This research has passed the ethics in the Ethics Commission of Dr.Soebandi University with No.96/KEPK/UDS/V/2023.

Results:

Based on the research conducted on children aged 4-60 months in Jember Regency, which took place from July to September 2023, involving 53 children who underwent developmental assessments using KPSP and nutritional status checks using the KIA book, the findings of this study can be summarized as follows:

Tabel 1 Frequency distribution and characteristics of respondents

Characteristic	Category	f	%
Gender	Male	19	36,54
	Female	33	63,46
Age	4-12 months	3	6
	13-24 months	10	20
	25-36 months	14	28
	37-48 months	7	14
	49-60 months	16	32
Total		50	100

Sourch : Data Primer 2023

This data reveals that the majority of the respondents are female, making up 63.46% of the total, while 36.54% are male. The age distribution shows that the majority of respondents fall into the 25-36 months age category, making up 28% of the total, followed by the 49-60 months age category, which comprises 32% of the total.

Tabel 2 frequency distribution of nutritional status and developmental status of children

Characteristic	Category	f	%
Nutritional status	Underweight	15	30
	Normal	35	70
Developmental status	Deviation	3	6
	Doubtful	17	34
	Appropriate age	30	60
Total		50	100

Source: Primary Data 2023

This data reveals that 30% of the children are underweight, while 70% have a normal nutritional status. The developmental status distribution shows that 6% of the children have a deviation, 34% are doubtful, and 60% fall under the category of an appropriate age for their development.

Tabel 3 Cross-tabulation of the relationship between nutritional status and development of children aged 4-60 months in Jember.

Development Status	Nutritional Status		Total	*P Value*
	Under-weight	Normal		
Deviation	3	0	3	*0,000*
Doubtful	0	17	17	
Appropriate Age	12	18	30	
Total	15	35	50	

Source : Chi Square Test

Jurnal Kesehatan dr. Soebandi
ISSN : 2302-7932 (Prin
ISSN : 2527-7529 (OnLi

The cross-tabulation results show the relationship between nutritional status and the developmental status of children aged 4-60 months in Jember. In the table above, there are three categories of developmental status (Deviation, Doubtful, and Appropriate Age) and two categories of nutritional status (Underweight and Normal). The given p-value is 0.000. This p-value indicates the level of significance of the relationship between nutritional status and developmental status. When the p-value is very small (e.g., 0.000), it suggests a highly significant relationship between the two variables. In this context, a p-value of 0.000 indicates a very significant relationship between nutritional status and developmental status in children. It suggests that nutritional status significantly impacts the developmental status of children. Furthermore, we can conclude that there is a significant difference in developmental status between underweight children and those with normal nutritional status.

Discussion:

Analysis of the data reveals a noteworthy distribution among the children under study, with 30% classified as underweight, while the remaining 70% exhibit a nutritional status considered normal. This disparity in nutritional status underscores a substantial segment of the cohort failing to meet the expected weight for their age and height, indicating potential repercussions for their health and developmental trajectories. The revelation that a significant proportion of children fall below the anticipated weight standards underscores the critical importance of addressing nutritional concerns during the formative toddler years. This distinction in nutritional status among toddlers emphasizes the imperative for heightened attention from parents and caregivers. The developmental repercussions of malnutrition during these early years are particularly significant, given that the consequences are often irreversible, limiting the child's ability to fully recover. It is within this critical developmental window that the foundation for lifelong health and well-being is laid. Recognizing the enduring impact of malnutrition, it becomes imperative for parents to prioritize and actively contribute to their child's nutritional needs.

Moreover, the observed link between nutritional deficiencies and their adverse impact on a child's motor development, as highlighted by Marimbi (2018), reinforces the urgency of proactive intervention. A child's motor development is intricately intertwined with their overall well-being, and addressing nutritional inadequacies during the toddler years is pivotal for mitigating potential long-term consequences. Therefore, the data not only serves as a snapshot of the current nutritional status but also as a call to action, urging parents and caregivers to be vigilant in fostering optimal nutritional conditions to ensure the holistic growth and development of their toddlers (Marimbi, 2018).

The results of this study are consistent with the findings of Napitupulu's (2018) research carried out at the Harjosari 1 Sub-District Health Center, Medan Amplas. Napitupulu's study revealed that a significant proportion of children had good nutritional status, accounting for 78.7%. The results of this study are quite promising as they indicate that most children enjoy a favorable nutritional status, a factor that strongly contributes to their optimal growth and development. Rindhani (2021) suggests that besides affecting a child's health, being undernourished can also have an impact on a child's physical and brain development. If the food does not contain the necessary nutrients, and this condition persists over an extended period, it can lead to changes in brain metabolism, resulting in the inability to function normally. In more severe and chronic cases of malnutrition, it can disrupt physical growth, leading to stunted body growth, accompanied by a smaller brain size.

Ayunintyas's (2021) study conducted in the Rau Community Health Center area in Serang City revealed that there is a correlation between a mother's knowledge and a child's nutritional status. According to the researcher, the nutritional status of a child should receive heightened attention from every parent. This is

because a deficiency of nutrients in children can lead to persistent disruptions in physical, mental, social, and intellectual development that can last into adulthood. If such circumstances occur, they may negatively impact a child's future health and psychological well-being.

The examination of children's developmental status reveals a nuanced distribution, with 6% exhibiting notable developmental issues, 34% falling into a category of uncertain development, and a substantial majority of 60% demonstrating development within the expected range for their respective ages. This nuanced breakdown signifies that a limited subset of children is manifesting signs of developmental concerns, indicating the need for focused attention and support. Additionally, a sizable proportion faces a status of uncertain development, underlining the complexity and variability in their individual progress trajectories. On the positive front, the majority of children are advancing as anticipated for their age, showcasing a reassuring trend in developmental milestones. This detailed distribution provides valuable insights into the diverse developmental trajectories within the cohort, guiding efforts to tailor interventions and support to the unique needs of each subgroup.

Wuryani (2018) explains that children with normal or healthy development typically enjoy good health, independence, self-entertainment, and the ability to socialize effectively within their surroundings. This implies that when a child experiences typical or healthy development, it usually leads to positive outcomes, including their overall well-being, independence, ability to entertain themselves, and their capacity to interact harmoniously with their environment. Adriani and Wirjatmadi (2017) also propose in their theory that children with abnormal motor development or developmental issues may encounter several difficulties. These may include delays in communication and socialization skills, learning challenges, autism, emotional regulation difficulties, and intellectual disabilities. In accordance with their theory, when a child experiences atypical motor development or developmental concerns, they might face a range of challenges. These challenges encompass delayed development in communication and social interaction, learning obstacles, the possibility of autism, struggles in emotional regulation, and the potential for intellectual disabilities. These issues can significantly affect a child's overall well-being and success in various aspects of life.

The development of a child is significantly influenced by the growth of their brain and muscles, which, in turn, are greatly impacted by the nutrients they receive. Hence, it's crucial for families to meet the nutritional requirements of their children. Nutrition serves a dual purpose: it supports both the child's physical growth and development and acts as an energy source. When a child lacks essential nutrients, it can impede their physical growth, which directly affects their overall motor skills. As a result, ensuring that children receive proper nutrition is essential for their well-rounded development.

The provided p-value, which is 0.000, signifies the degree of importance in the connection between nutritional status and developmental status. When the p-value is exceedingly small, like 0.000, it points towards an exceptionally substantial association between the two factors. In this context, a p-value of 0.000 underscores a highly noteworthy relationship between nutritional status and a child's developmental progress. It strongly implies that a child's nutritional well-being significantly influences their developmental status. Consequently, we can assert that there exists a substantial distinction in the developmental status between undernourished children and those with regular nutritional status. This suggests that a child's nutritional health has a substantial impact on their developmental well-being.

The findings of this study align seamlessly with Supariasa's theory (2017), emphasizing the paramount significance of nutritional status in a child's motor development. Supariasa underscores that the

nutritional foundation laid during childhood profoundly influences developmental milestones. The crux of this theory lies in the premise that when children receive adequate and appropriate nutrition, they are significantly more likely to attain optimal and expedited developmental milestones compared to their counterparts with insufficient nutritional intake. Supariasa's theory resonates with the core understanding that nutrition serves as a fundamental building block for a child's overall well-being and developmental trajectory. The harmonious correlation between sufficient and appropriate nutrition and the attainment of developmental milestones underscores the intricate interplay between dietary habits and the unfolding of a child's motor skills. This aligns with the broader consensus within developmental science, highlighting the multifaceted impact of nutrition on cognitive, physical, and motor development during the crucial stages of childhood. In essence, the study not only reaffirms but also provides empirical support for Supariasa's theoretical framework, emphasizing the pivotal role that proper nutrition plays in shaping the developmental landscape of children. This interconnected relationship reinforces the imperative for comprehensive approaches to child health, underscoring the need for strategic interventions that prioritize and optimize nutritional conditions to foster robust motor development in the early years of a child's life.

Marimbi (2017) further asserts that when an individual's physical growth and development do not align with adequate nutritional intake, it negatively affects their motor skills. It's crucial to note that nutrition is indispensable for humans as it serves a dual purpose: supporting growth and development processes while also converting nutrients from food into energy. This energy is what powers human movement. Consequently, individuals with inadequate or poor nutritional status will inevitably face hindrances in their physical growth, leading to a direct impact on their overall motor abilities. These research findings harmonize with the results from Rindhani's (2021) investigation, conducted at Al-Rasyid Kindergarten in the Marpoyan Damai District of Pekanbaru. Rindhani's study has unearthed a compelling correlation between nutritional status and child development. The research revealed that a significant 66.7% of malnourished toddlers experienced slower or age-inappropriate developmental milestones. In contrast, a relatively lower 32.8% of toddlers with normal nutritional status encountered delays or age-inappropriate development.

Napitupulu's research findings (2018) draw attention to the variations in the growth rates observed in children who are provided with high-energy and micronutrient supplements. The study reveals a notable 66.7% of children who exhibit sluggish development attributed to an insufficient energy intake. Furthermore, it unveils that 80% of children experience developmental disturbances stemming from an inadequate protein intake. In essence, the core takeaway from this study is that ensuring a well-rounded nutritional intake plays a pivotal role in supporting children's growth and development. This underscores the essential functions that nutrients perform in the process. Efforts to maintain the health and development of children should be the primary focus of child health and education programs. This means it is essential to provide parents with information on the importance of providing a balanced nutritional intake for their children and practical guidance on how to do so. Thus, it is easier to create a healthier and more optimally potential future generation. With proper attention to the nutritional status and development of children aged 4-60 months, we provide a strong foundation for their growth and a brighter future. The advantage of this study is the examination of development in toddlers aged 4-60 months which is still rarely done. Parents who are enthusiastic when told the results of their child's developmental examination and given education for growth and development stimulation. The limitations of this study are that there are still many other toddlers who have not been able to attend this study, there needs to be a longer time so that all toddlers can have the opportunity to be

sampled and examined for growth and development.

Conclusions:

This research aims to determine the relationship between nutritional status and the development of children aged 4-60 months in Jember Regency. The research results indicate that nutritional status is related to a child's development with a p-value of 0.000. Children with good nutritional status show more optimal developmental progress, while those with poor nutritional status tend to have slower or age-inappropriate development. These findings align with theories emphasizing the importance of adequate nutritional intake for child growth and development. Therefore, efforts to improve the nutritional status of children should be a top priority in various child health and education programs. With the right understanding and actions, we can contribute to creating a healthier and more promising future generation.

References:

Adriani, & Wirjatmadi. (2017). Pengantar Gizi Masyarakat. Jakarta: Kencana.

Aprilasari. (2017). Penerapan Brain Gym untuk Meningkatkan Perkembangan Kognitif Anak Usia 4-6 Tahun di TK Marsudi Putro Yogyakarta. Skripsi STIKes Jenderal Achmad Yani Yogyakarta. [Link:

BPS. (2018). Profil Anak Indonesia 2018. Jakarta: Kementerian Pemberdayaan Perempuan dan Perlindungan Anak (KPPPA).

Marimbi, H. (2018). Tumbuh Kembang, Status Gizi Dan Imunisasi Dasar Pada Balita. Yogyakarta: Nuha Medika.

Ministry of Health Indonesia. (2022). Profil Kesehatan Indonesia 2022.

Napitupulu. (2018). Hubungan Status Gizi Dengan Perkembangan Motorik Kasar Anak Balita 3-5 Tahun Di Puskesmas Kelurahan Harjosari 1 Kecamatan Medan Amplas. Skripsi. Politeknik Kesehatan Kemenkes RI Medan.

Putriana, K., Pratiwi, E.A., & Wasliah. (2019). Hubungan Durasi dan Intensitas Penggunaan Gadget dengan Perkembangan Personal Sosial Anak Usia Prasekolah (3-5 Tahun) di TK Cendikia Desa Lingsar Tahun 2019. Jurnal Kesehatan Qamarul Huda, 7(2), 5-13.

Rivanica, R., & Oxyandi, M. (2018). Buku Ajar Deteksi Dini Tumbuh Kembang dan Pemeriksaan Bayi Baru Lahir. Jakarta: Salemba Medika.

Setianingsih, S. (2018). Dampak Penggunaan Gadget Pada Anak Usia Prasekolah Dapat Meningkatkan Resiko Gangguan Pemusatan Perhatian Dan Hiperaktivitas. Gaster | Jurnal Ilmu Kesehatan, 16(2), 191.

Supariasa. (2017). Penilaian Status Gizi. Jakarta: Egc.

Wuryani (2018). Bina Diri Tunagrahita Berbasis Multimedia Interaktif. Jakarta: Unj Press.

Yunita, L. (2021). Hubungan Status Gizi Dengan Perkembangan Motorik Kasar Anak Usia Prasekolah Di Wilayah Kerja Posyandu Bunga Maja Kecamatan Gunung Sari. Nutriologi: Jurnal Pangan, Gizi Dan Kesehatan, Volume 02, No. 02.