Proceedings of the Asian Academic Collaboration Forum (AACF)

Theme: Academic Collaboration Activities of the Research and Community Service Institute of Makassar State University and FSSK-UKM

2024, Volume 1: 100-104 (page)

DOI: ...

E-ISSN:

Published by Academic Collaboration Institute

Analysis of Eating Patterns, Physical Activity and Nutritional Status of Pre-School Age Children at Azzahrah Kindergarten

A. Mushawwir Taiyeb, Irma Suryani Idris, Muliana GH.

Makassar State University

*Corresponding author: a.mushawwir.t@unm.ac.id

Abstract

One of the current health problems of children is malnutrition which can be influenced by Eating Pattern (diet). Diet and physical activity are factors that play a role in determining a child's nutritional status. This study aims to analyze the relationship between eating patterns, physical activity and nutritional status in preschool children. Analytical observational research method with a cross sectional design. The research subjects were 60 children aged 4-6 years at the Azzahrah Kindergarten, Takalar Regency. Data collection was carried out using questionnaires, scales and stadiometers to measure weight and height. The results of the study showed that there were 55 children who had normal nutritional status and 5 children who had more nutritional status. The level of physical activity in boys with a normal BMI is 1.5 and girls 1.4, while in children with a BMI more than normal, it is 1.1 for boys and 1.04 for girls. In normal nutritional children, the duration of sleep is 11.2 hours, sedentary activities are 10.7 hours and active activities are 2.1 hours, while in children with over nutrition, the duration of sleep is 13.7 hours, sedentary activities are 8.6 hours and active activities are 1 ,1 hour. There is a significant relationship between levels of physical activity. There are significant differences between sleep time, sedentary and active activities in children with normal nutrition and more than normal nutrition. Conclusion: There is a relationship between eating patterns and physical activity levels and nutritional status in preschool-aged children at Azzahrah Kindergarten, Takalar Regency.

Keywords: Eating pattern, physical activity, nutritional status, pre-school age children

Introduction

One of the current health problems of children is malnutrition which can be influenced by Eating Pattern (diet). Diet and physical activity are factors that play a role in determining a child's nutritional status. The early childhood or pre-school age group is the golden age for children's growth and development so they must be protected so that they do not experience growth and development disorders. The reality shows that the prevalence of malnutrition is actually high at this critical age. There are several reasons why pre-school age children are vulnerable to malnutrition problems. First, nutritional needs per kilogram of body weight in early childhood are greater than nutritional needs after that period. This is because in the human life cycle the highest growth rate occurs at this time. Second, pre-school age children are always active, moving and playing so the need for activity is also high. Babies become more active when they start learning to walk so food needs to be increased, but many mothers do not provide additional food. This results in the output not matching the input. Third, activity, desire to explore and high curiosity cause children of this age to quickly respond to objects around them by touching, kissing and sometimes putting objects in their mouths. This situation causes young children to become susceptible to infections and disease attacks. Diseases and infections affect the absorption

of the nutrients consumed. Apart from that, illness also causes a decrease in appetite so that the food substances that enter the body become limited. Fourth, the problem of difficulty eating often occurs in this age range. Fifth, children need gentle words and affectionate touches which can stimulate increased growth hormones and body endurance. The situation that often occurs, on the contrary, is that feeding is not accompanied by a comfortable atmosphere. Sixth, children of this age really enjoy consuming snacks. Snack foods tend to be carbohydrate-based and high in sugar. High consumption of snacks like this can cause children to have no appetite when served main meals.

It is realized that pre-school age children are very vulnerable to nutritional deficiencies. For many years the motto "Four Healthy, Five Perfect" which has been refined into "Guidelines for Balanced Nutrition" is important knowledge for children and their parents. This campaign was carried out with the understanding that children are the nation's next generation. Only intelligent children can lead this nation to a better direction and be respected by other countries in the world. Nutrition and health are important prerequisites for the success of early childhood education (PAUD) bearing in mind: nutrients are the building blocks for the brain and other organs related to child development; Nutrients are needed as neuro-transmitters; Nutrients play a role in forming children's immunity; and health is a guarantee for the continuity of the PAUD process.

Nutritional status is a measure of a person's body condition. Nutritional status describes the body condition of a person or group of people as a result of consumption, absorption and use of food nutrients. Good nutritional status or optimal nutritional status occurs when the body obtains enough nutrients efficiently to enable brain growth, work ability and general health. Consuming food that has poor nutritional quality will have an impact on health conditions and unbalanced nutrition so that various nutritional problems will arise. There are various factors that influence a person's nutritional status. Factors that are the basis for fulfilling a person's level of nutritional needs include daily diet and physical activity (Hadi, 2019). A healthy eating pattern is eating three times a day with consumption of staple foods, side dishes (animal protein and vegetable protein), vegetables, fruit and water in sufficient quantities according to the age group and body needs (Dungga, 2022).

Nutritional status is also very closely related to physical activity. According to WHO (2017) physical activity is the activity of moving the body from skeletal muscle work and there is an increase in the burning of power and energy. Physical activity is also an important factor that influences the nutritional status of adolescents. because during this period teenagers become more active and are involved in many sports activities, but quite a few of them actually ignore the physical activities they should do well, one of which is being lazy about exercising. They lack proper activity due to several reasons, including laziness, lack of internal and external motivation, lack of awareness of healthy and fit living, and lack of knowledge about the importance of regular physical activity.

Based on observations carried out at the Azzahrah Kindergarten in Takalar Regency, data was obtained that the teachers on duty, including parents, needed a refresher on how to monitor children's health and nutritional status. They have received assistance from the Takalar District Health Service regarding the importance of caring for PAUD children, but have not been able to actually implement how to analyze the results of growth and development monitoring.

Methods

This study aims to analyze the relationship between eating patterns, physical activity and nutritional status in preschool children. Analytical observational research method with a cross sectional design. The research subjects were 60 children aged 4-6 years at the Azzahrah Kindergarten, Takalar Regency. Data collection was carried out using questionnaires, scales and stadiometers to measure weight and height.

This research uses a cross sectional study research design. This is research that requires a relatively short time and collects data simultaneously or at one time. This research seeks to examine the relationship between knowledge of eating patterns and physical activity with nutritional status in pre-school children at Azzahrah Takalar

Kindergarten. In this study, three variables were used, namely the independent variable (X), namely diet (X1), physical activity (X2), and nutritional status (Y). The data collection techniques used in this research are as follows:

a. Diet. To collect data on students' eating patterns, they use a questionnaire in the form of a Food Frequency Questionnaire (FFQ). FFQ is a questionnaire that describes the respondent's frequency of consuming several types of food.
b. Physical activity. To obtain data about physical activity in students, the instrument used was the Global Physical Activity Questonnaire (GPAQ) physical activity questionnaire.
c. Nutritional status. To determine students' nutritional status, height and weight data are needed which are taken directly using measuring instruments, namely digital weight scales and microtoises. After obtaining the weight and height data, the body mass index is then calculated so that an idea of the nutritional status of the respondent can be obtained.

Result and Discussion

The results of the study showed that there were 55 children who had normal nutritional status and 5 children who had more nutritional status. The level of physical activity in boys with a normal BMI is 1.5 and girls 1.4, while in children with a BMI more than normal, it is 1.1 for boys and 1.04 for girls. In normal nutritional children, the duration of sleep is 11.2 hours, sedentary activities are 10.7 hours and active activities are 2.1 hours, while in children with over nutrition, the duration of sleep is 13.7 hours, sedentary activities are 8.6 hours and active activities are 1 ,1 hour. There is a significant relationship between levels of physical activity. There are significant differences between sleep time, sedentary and active activities in children with normal nutrition and more than normal nutrition.

A healthy and nutritionally balanced diet is important for children, including those attending Kindergarten. A good diet can help children optimize cognitive function, be ready to learn optimally, improve mental well-being and emotional intelligence. According to the parents of students at Azzahrah Kindergarten, their children's eating patterns are still varied and they do not fully follow a healthy eating pattern perfectly. According to Sulistiyoningsih (2012) there are several tips for implementing healthy eating patterns for children, namely:Give at least five toddler-sized portions of starch-containing foods every day, Provide at least one portion of high protein food a day, Eat more fruit and vegetables, Avoid foods that are high in fat, oily and sugary, Avoid excessive flavoring, Drink lots of water, Breakfast is the main thing in a healthy diet, Choose snacks high in protein, Balance it with exercise.

A healthy and nutritious diet for pre-school aged children in kindergarten can be achieved through several things (Utami 2020), such as: Schedule children's meals with 3 main meals, 1-2 snacks, and giving milk or breast milk, Give foods that contain starch, such as bread, rice, pasta, cereal and potatoes, Increase foods that are high in fiber and high in protein, Limit fast food and snacks, Choose food that is safe, clean, and has been cooked thoroughly, Avoid foods and drinks that have bright colors, Reduce portions and frequency of unhealthy foods that are high in sugar, salt and fat, Explain to children why certain foods are healthier than other foods, and Give appreciation for things other than food, for example doing fun activities with the family

A healthy, nutritious and balanced diet is important for optimizing children's cognitive functions so that they are ready to learn optimally at school. Research results show that varied nutritional intake in balanced amounts also has an effect on children's mental well-being and emotional intelligence. Based on interviews conducted with parents and teachers at Azzahrah Kindergarten, in general their children can do several physical activities even though they are not yet perfect, including: Cycling: This activity can train children's body balance and leg strength, Jumping on a trampoline: This activity can train children's motor skills, Cutting and sticking origami paper: This activity can improve hand-eye coordination and develop children's fine motor control, Playing ball: This activity can train children's gross motor skills, Drawing and coloring: This activity can train children's

motor skills, Playing with plasticine: This activity can train children's motor skills, Dressing yourself: This activity can train children's motor skills.

Apart from that, children can also do other physical activities such as: Dancing, Pretend play, Practicing children's motor development by playing puzzles, Holding a water gun to spray. Physical development in early childhood includes gross and fine motor skills. Gross motor skills are large movements such as running, jumping, and climbing that use large muscle groups. Fine motor skills are small movements such as buttoning, closing zippers, and feeding that require hand strength and dexterity. There are several gross motor skills that can be done, including: Perform coordinated body movements to train flexibility, balance and agility, Coordinate eye, foot, hand and head movements in imitating dance or gymnastics, Play physical games with rules.

The results of research published in the Journal of Environmental Research and Public Health found that regular physical activity is associated with increased cognitive function in children. The role of physical activity in this case can increase better oxygen circulation to the brain to provide nutrition for the brain. This condition stimulates the maturation of motor areas in the brain so that it can influence motor development and increase the speed of nerve impulses. Thus, it can be stated that children who are active tend to be smarter in various skills. Not just the brain, being active in sports will have a positive influence on all children's systems, from the motor, cardiovascular, respiratory, hormonal, immunological, to nervous systems. On the other hand, lack of physical activity can cause limited perception and developmental disorders in children.

Nutritional status is a person's nutritional condition which can be seen to determine whether the person is normal or has problems with their nutritional intake. Nutrition is a health disorder caused by a deficiency or excess and/or balance of nutrients needed for growth, intelligence and activity or productivity. For pre-school children, nutrition is important to support their growth and development. Nutritional status in kindergaten is related to various factors that influence it, including energy and nutrient intake, gender, education, fiber consumption habits (vegetables and fruit), physical activity, and genetic factors, namely nutritional status.

Conclusion

The eating patterns of pre-school age children at Azzahrah Takalar Kindergarten still vary according to the parenting patterns of each family. The quality of physical activity of pre-school age children at Azzahrah Takalar Kindergarten is quite active. The nutritional status of Kindergaten at Azzahrah Takalar Kindergarten is on average quite good. There is a relationship between eating patterns and physical activity levels and nutritional status in preschool-aged children at Azzahrah Kindergarten, Takalar Regency.

Acknowledgments

Many thanks go to the Principal of the AZZAHRAH Kindergarten School, Takalar Regency, teachers, and parents of students for all their help and participation so that this research can be completed. Likewise, thanks to the Rector of UNM, the Head of the UNM Institute for Research and Community Service, and the Dean of FMIPA UNM who have facilitated the implementation of this research.

References

Abduh, M., Alawiyah, T., Apriansyah, G., Sirodj, RA, & Afgani, MW (2023). Survey Design: Cross Sectionals in Qualitative Research. Journal of Science and Computer Education, 3(01), 31-39.

Achya, F, F., Taiyeb, M., Pagarra, H. (2021). The Relationship between Knowledge About Balanced Nutritional Food and Students' Attitudes. Journal of Biology Teaching and Learning, 4(1), 75-84. https://doi.org/10.35580/btl.v4i1.21347

Alqahtani. (2020). Relationship Between Nutiritional Habits and School Performance Among Primary School Students in Asser Region. *Journal of Family Medicine and*

Primary Care, 9(4): 1986-1990.

Angulo, J. et.al. (2020). Physical Activity and Exercise: Strategies to Manage Frailty. *Journal Elsevier*. 2213-2317.

Dewi, R. C., & Wirjatmadi, B. 2019. Energi intake, body image, physical activity and nutritional status of teenagers. Journal of Public Health in Africa, 10(1).

Dungga, E. F. 2022. Diet and its relationship to uric acid levels. Jambura Nursing Journal, 4(1), 7-15.

Fernandes, V. et.al. (2023). How Does the Level of Physical Activity Influence Eating Behavior? A Self-Determination Theory Approach. *Nutritional Sciences and Nutritional Biochemistry, 13(2),* 298.

Infant and Young Child Feeding - Food and Agriculture Organization. Retrieved February 10, 2023 from https://www.fao.org/3/y4249e/y4249e0b.htm

Jakstas, T. et.al. (2023). Addressing Schoolteacher Food and Nutrition-Related Health and Wellbeing: A Scoping Review of the Food and Nutrition Constructs used Across Current Research. *International Journal of Behavioral Nutrition and Physical Activity*, 20(108).

Indonesian Ministry of Health. 2014. Guidelines for Balanced Nutrition. Jakarta: Ministry Health.

Kusumaningtiar. (2017). Measuring Nutritional Status and Promoting Balanced Nutrition for Children at the Tebet Orphanage, Future Youth Foundation. In Abdimas Journal (Vol. 4, pp. 18–23).

Malnutrition in Children - World Health Organization. Retrieved February 10, 2023 from https://www.who.int/data/nutrition/nlis/info/malnutrition-in-children

Prastiwi. (2019). Growth and Development of Children Aged 3-6 Years. In Sandi Husada Health Scientific Journal (Vol. 10, pp. 242–249)

Sugihartiningsih. (2019). Growth and Development of Pre-School Children. Retrieved from https://ejournal.stikespku.ac.id/index.php/ mpp/article/view/ 37/33

Children's Anthropometric Standards - Directorate General of Public Health Development, Ministry of Health. Retrieved February 10, 2023 from http://hukor.kemkes.go.id/uploads/produk_law/PMK_No_ 2_Th_2020

Yuniar, Y., Taiyeb, M., & Pagarra, H. (2023) The Influence of Balanced Nutrition Education on Students' Nutrition Knowledge at SMA 13 Takalar. In Proceedings of the National Biology Seminar: Scientific Innovation & Learning, 11(1), 101-109