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AN OVERVIEW OF THE NUTRITIONAL STATUS OF CHILDREN AGED 6 - 60 MONTHS AT "KHANZA DAYCARE"

Jauharotul Jannah
BRIMEDIKA General Hospital, Malang City, Indonesia

Corresponding Author:
jauharotuljannah11@gmail.com

ABSTRACT

Background: *Nutritional problems are one of the most common health problems, especially among children in the world. Malnutrition will cause stunted growth and development of children. Nutritional status is the sensitive indicator of a child's health, and under-five children constitute the most vulnerable segment of any community. Adequate nutrition is a necessary first step in the improvement of quality of life. Nutrition plays a key role in the physical, mental, and emotional development of children, and much emphasis has been given to provide good nutrition to growing populations, especially in the formative years of life.*

Aims: *To overview of the nutritional status of children aged 6 - 60 months at "Khanza Daycare".*

Methods: *This type of research is descriptive research with a cross sectional approach. Sampling was carried out using total sampling technique. The research population was children aged 6 – 36 months with a sample size of 12 children.*

Results: *The research results showed that the child had a normal weight of 100%. Short children 16.7%, normal 83.3%. Children with over nutrition are 8.3% and normal nutrition are 91.7%. Children at risk of overnutrition are 8.3%, overnutrition 8.3%, and normal 83.4%.*

Conclusion: *Based on the research results obtained, the nutritional status of children aged 6 - 60 months at Khanza Daycare has a good nutritional level, so working mothers do not need to worry about entrusting their children to the daycare.*

Keywords: *Nutrional status, children, malnutrition.*

INTRODUCTION

Health is the necessary foundation for the comprehensive development of children. Good health helps children not only to develop intelligence, raise the stature, increase mobility, learn and discover the world, but also to reduce the risk of illness and death. Therefore, regular nutritional assessment plays an important role in child care for family and school. Nutritional status that doesn't conform to standards and can be determined as "unsatisfactory" or "unhealthy" in all its forms is a global health concern. Not only malnutrition (underweight, stunting, wasting and these disorders combined) but also over-nutrition (overweight and obesity) are reported to be serious problems affecting developing countries.[1]

Globally, the prevalence of stunting, underweight, and wasting in children <5 years are 26%, 16%, and 8%, respectively. The World Health Organization (WHO) estimates that approximately 150–200 million children aged under 5-year in developing countries are underweight and stunted. It has been estimated that approximately one out of every eight of Under-5 children dies due to malnutrition in Sub-Saharan Africa. Epidemiological studies conducted in developing countries have identified several factors associated with undernutrition, including low birth weight, inadequate exclusive breastfeeding, birth spacing, birth rank, and environmental factors such as parental education, socioeconomic status, sanitation, the standard of living, health services, vaccination, and infectious disease.[2]

Nutrition is essential for healthy growth in early childhood. On the other hand, early childhood development can be affected by malnutrition. Malnutrition is associated with the development of the brain areas that function as a certain fine motor controller. Further, children who have lower brain functions have a greater chance of lower cognitive and academic abilities. Malnutrition among children under five years old can also cause a variety of impacts on physical, mental, development, social, and mortality. Some studies conducted about the magnitude of malnutrition's impact in early childhood. A systematic review of a prospective study about the long-lasting effect of malnutrition revealed that malnutrition is the most common cause of death in children and has a long-term psychological impact. In addition, malnutrition can also affect mental development and the decline of an individual's workability in the future.[3]

A better-nourished world is a better world. The global community is grappling with multiple burdens of malnutrition. Eighty-eight percent of countries face a serious burden of either two or three forms of malnutrition. The World Bank estimates that India is one of the highest-ranking countries in the world for the number of children suffering from malnutrition. The prevalence of underweight children in India is among the highest in the world and is nearly double that of Sub Saharan Africa with dire consequences for mobility, mortality, productivity, and economic growth.[4]

Malnutrition, defined as being either undernourished or over nourished, is a serious public-health issue that has been linked to a significant increase in the risk of mortality and morbidity. Child malnutrition causes a delay in physical growth and motor development, lower intellectual quotient (IQ), greater behavioral problems, a lack of skills, susceptibility to contracting diseases, chronic illnesses in adulthood which can have an intergenerational effects. Wasting, stunting, and underweight are defined as Z-scores less than − 2 standard deviations of weight for height, height for age, and weight for age, respectively.[5]

Globally, 150.8 million under the age of five children were stunted, and 50.5 million children were wasted. Malnutrition is an underlying cause for nearly half (45%) of child deaths, particularly in low socioeconomic communities, with more than 7 million women suffering from complications due to vitamin A deficiency and causing deaths in 6–8 percent of the children under the age of five in Africa and Asia. Furthermore, the, overall under-5 mortality rate due to malnutrition was 55 deaths per 1,000 live births. Under nutrition remains a major public health concern in developing countries, as a result of a combination of poor dietary consumption, infection such as diarrhea, household food insecurity, and poor sanitation practices. Malnutrition is one of the most serious public health issues in Ethiopia, and one of the world's largest. Stunting is extremely common in Ethiopia, ranging from (49% in Tigre to 14% in Addis Ababa), and wasting has varying figures in different parts of the country, reaching up to 21 percent.[5]

Every country in the world is affected by one or more forms of malnutrition. Combating malnutrition in all its forms is one of the greatest global health challenges. Globally in 2020, 149 million children under 5 were estimated to be stunted (too short for age), 45 million were estimated to be wasted (too thin for height), and 38.9 million were overweight or obese. Around 45% of deaths among children under 5 years of age are linked to undernutrition. Malnourished children, particularly those with severe acute malnutrition, have a higher risk of death from common childhood illnesses such as diarrhea, pneumonia, and malaria. Nutrition-related factors contribute to about 45% of deaths in children under 5 years of age.[6]

Stunting defined as "Moderate and severe - below minus two standard deviations from median height for age of reference population". Children who are small according to their age are denotes to stunting. Complements of stunted growth are irreversible physical and cognitive damage from which children might be suffering severely. Stunting can affect for late a lifetime and even it has shocking effect on next generation.[7]

Wasting defined as "Moderate and severe - below minus two standard deviations from median weight for height of reference population". Children who are too thin according to their height are denotes to be wasting. Contemporary quick weight loss or the failure to gain weight results in wasting. Moderate and severe wasted children have an increased mortality rate. However, the treatment and cure are conceivable.[7]

Malnutrition is the most severe consequence of food insecurity amongst children under the age of 5 years. Acute malnutrition can lead to morbidity, mortality and disability, as well as impaired cognitive and physical development with an increased risk of concurrent infections. Physical and mental health development is a fundamental right of a child, and their optimum level of health can be accessed with good nutritional support.[8]

Malnutrition causes a very high prevalence of stunting (short children). The prevalence of stunting under five in Indonesia is ranked second highest in the Southeast Asia region after Laos with 43.8%. Based on Basic Health Research (Riskesdas) conducted by the Health Research and Development Agency (Litbangkes) regarding the prevalence of stunting in Indonesia. Based on this research, the stunting rate in Indonesia is 30.8%, this figure is far from the standard set by WHO, namely 20%. There are several factors that can cause stunting, namely family economic status, history of LBW and the most important thing is fulfilling adequate nutritional intake when the mother is pregnant, then parenting patterns and fulfilling adequate nutrition until the child is 23 months old or fulfilling nutrition at 1000 the first day of life so that it can grow and develop optimally.[9]

METHODS

This type of research is descriptive research with a cross sectional approach. Sampling was carried out using total sampling technique. The research population was children aged 6 – 36 months with a sample size of 12 children. Data was obtained by measuring the child's weight, height and calculating the child's age. Assessment of nutritional status is carried out by entering data into the WHO graph of weight for age, height for age, BMI for age, and weight for height.

RESULTS

This research is a descriptive study conducted on 12 children aged 6-60 months at Khanza Daycare with the following results:

Table 1. Gender

Gender	Frequency (n)	Percentage (%)
Male	9	75%
Female	3	25%

Based on table 1, it was found that there were 9 male children (75%) and 3 female children (25%).

Table 2. BB/U

BB/U	Frequency (n)	Percentage (%)
Severly underweight		
Underweight		
Normal	12	100%
Risk of overweight		

Based on table 2, it is found that the assessment based on BB/U provides an illustration that the body weight of 12 children (100%) is normal.

Table 3. TB/U

TB/U	Frequency (n)	Percentage (%)
Severely stunted		
Stunted	2	16,7%
Normal	10	83,3%
Tall		

Based on table 3, it was found that the assessment based on TB/U, found 2 children (16.7%) who were categorized as short/stunted and 10 children (83.3%) who were categorized as normal height.

Table 4. BB/TB

BB/TB	Frequency (n)	Percentage (%)
Severely wasted		
Wasted		
Normal	11	91,7%
Overweight	1	8,3%
Obese		

Based on table 4, it was found that in the assessment based on BB/TB, 11 children (91.7%) had normal nutritional status and 1 child (8.3%) had more nutritional status.

Table 5. BMI/U

BMI/U	Frequency (n)	Percentage (%)
Severely wasted		
wasted		
Normal	10	83,4%
Possible risk of overweight	1	8,3%
overweight	1	8,3%
Obese		

Based on table 5, it was found that the assessment based on BMI/U, found 10 children (83.4%) who had normal nutritional status, 1 child (8.3%) who was at risk of overnutrition, and 1 child (8.3%) %) who have more nutritional status.

DISCUSSION

Malnutrition was one of the most significant child health issues in developing countries. In 2012, approximately 19.4% and 29.9% of children aged under 5 years had underweight and stunting, respectively, with more than 3.4 million mortality cases among children aged under 5 years related to nutritional status. World Health Organization (WHO) reported that the prevalence of stunting and underweight among children aged under 5 years globally in 2017 decreased; those were 13.5% and 22.2%, respectively. However, more than half of all stunted children under 5 years lived in Asia and Africa. Stunting refers to a child who is too short for his or her age; these children could suffer severe irreversible physical, cognitive damage and these devastating effects can last a lifetime and even affect the next generation. Malnutrition was also one of the important risk factors in the onset of many communicable and noncommunicable diseases in both children and adults worldwide. Therefore, adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential. Malnourished children suffer in higher proportion from respiratory infections, diarrhea, and measles, characterized by a protracted course and exacerbated disease. Stimulation of an immune response by infection increased the demand for metabolically derived anabolic energy and associated substrates, leading to a synergistic vicious cycle of adverse nutritional status and increased susceptibility to infection.[10]

These disturbances in nutrition as a result of inadequacy in food intake, health problems, or a combination of both, invariably affect the growth of children. Hence, assessments on the nutritional status of children based on their anthropometric indicators of growth has been used not only in generating information on their nutritional and health status, but also in providing an indirect measurement of the quality of life of their community, and thereby as an indicator of the nutritional status and food intake adequacy of all members in that community.[11]

The early childhood period is the most crucial developmental phase in life, and thus, the ultimate aim is for all children to be free of malnutrition in all forms. The six global targets set by the World Health Assembly in 2012 included a 40% reduction in the number of stunted children by 2025, no increase in childhood overweight and maintenance of the prevalence of wasting to less than 5%. The global agenda to improve nutrition by 2030 aims to end all forms of malnutrition, reduce stunting by 50% and reduce childhood overweight and wasting numbers to less than 3%. Globally in 2018, 821.6 million people were undernourished, of which 256.1 million were from Africa. Moreover, 9.2% of people worldwide experienced hunger and Africa accounted for the highest percentage (21.5%) of people experiencing severe food insecurity. It has been well established that stunting is the devastating result of poor nutrition in-utero and early childhood.[12]

Government efforts to reduce the number of malnutrition have been shown significant progress. This can be seen from the data released by Indonesian Basic Health Research. There was a decreasing number in the incidence of underweight, stunting, and wasting in Indonesia from 19.6%, 37.2%, and 12.1%, respectively in 2013 to 17.7%, 30.8%, and 10.2% respectively in 2018. The number of malnutrition is also declining in East Nusa Tenggara Province. However, this province remains the highest rates of underweight and stunting compared to other provinces in Indonesia, namely 29.5% and 42.6%, respectively. Furthermore, the prevalence of acute and chronic malnutrition is critical in the province of East Nusa Tenggara. According to the classification for assessing the severity of underweight, stunting, and wasting by World Health Organization, the prevalence in East Nusa Tenggara was categorized as very high underweight (29.5%) and very high stunting (42.6%) in 2018. Moreover, malnutrition is one of the causes of under-five children's death in this province.[3]

Malnutrition is a health condition resulting from eating food that contains either insufficient or too many calories, carbohydrates, vitamins, proteins or minerals. It is a state of under- or overnutrition, evidenced by a deficiency or an excess of essential nutrients.[3] Good nutrition is the basic need for children to thrive, grow, learn, play and participate. Section 28(1) (c) of the Bill of Rights in the South African Constitution guarantees every child the right to basic nutrition, shelter, basic healthcare services and social services that are related to the best interests of the child. Access of every child to sufficient food may be the responsibility of parents and child to determine the fulfilment of this right. Malnutrition often steals dreams from their young lives and hangs their future in the balance.[8]

Stunting has a big impact on children's growth and development in the future. The impact of stunting that can be seen in children is generally obstacles in their cognitive and motor development which will affect their productivity as adults. Stunting results in lower growth capacity in the future, both physically and cognitively and will also affect productivity when children enter adulthood. Apart from that, stunted children also have a greater risk of suffering from non-communicable diseases such as diabetes, obesity and heart disease as adults.[13]

This research was conducted to see the nutritional status of children aged 6 – 60 months based on various assessments, such as BB/U, TB/U, BW/TB, and BMI/U.

From the research results it was found that the assessment based on BB/U provides an illustration that the body weight of 12 children (100%) is normal.

These BB/U results are in line with research conducted by Mantu (2023) that of the 43 respondents, the highest nutritional status was normal weight with 26 respondents (60.5%), underweight with 14 respondents (32, 5%), Very underweight with 3 respondents (7.0%).[13]

From the research results it was found that the assessment based on TB/U, found 2 children (16.7%) who were categorized as short/stunted and 10 children (83.3%) who were categorized as normal height.

This research is in line with research conducted by Suhamdani (2021) which stated that out of 93 respondents there were 58 respondents (62.36%) while respondents with very short height were 35 respondents (37.63%).[9]

Indonesia is a developing country that has complex problems, especially in nutrition. Nutrition in Indonesia or other developing countries has different nutritional cases from developed countries, namely Indonesia has a double nutritional problem, which means nutritional status shows that on one side of the area there is less nutrition and on the other side there is more nutrition. This problem is one of the problems that has been the focus of the Indonesian government to date. If this is not taken seriously, it will increase the risk of morbidity, death and obstacles to motor and mental growth.[9]

Good nutritional status is an important factor in achieving optimal health. However, various diseases such as nutritional disorders and malnutrition due to poor quality of food or quantity of food that is not in accordance with the needs of each person's body, are still often found in various places. This nutritional disorder describes a condition resulting from an imbalance between the nutrients that enter the body and the body's need for nutrients. This nutritional problem is a reflection of consumption of energy and other nutrients that is not yet optimal. One of the nutritional deficiencies that is still often found in our country and is a major nutritional problem, especially in toddlers, is protein energy deficiency. Protein Energy Deficiency is a state of malnutrition caused by low consumption of energy and protein in daily food so that it does not meet nutritional adequacy levels.[14]

Stunting is one of the world's major nutritional problems prominently in developing countries, characterized by chronic growth and development impairment of children. Globally, one in four children aged under 5 years had stunted growth. In Indonesia, the World Health Organization (WHO) describes the stunting prevalence to be as high as 30.8%: 19.2% are short and 18.0% are very short. Stunting with the prevalence of ≥20% is considered as a health problem and should be immediately treated; thus, it is included as one of the health development priorities.[15]

Stunting may lower the immune system and increase the risk for developing infection. Stunted children have a higher risk of developing hypertension, diabetes, and obesity when they reach adulthood, with their average IQ 11 points lower than in children without stunting. Therefore, this study aimed to identify the dangerous effects of stunting, which then can help

establish the strategies for its treatment. Previous studies reported multiple risk factors associated with the incidence of stunting in infancy, such as inadequate nutritional intake, low birth weight (LBW), parental height, familial economic status, poor educational status of parents, unemployed father, exclusive breast milk feeding, and weaning during the food initiation age.[15]

Problems with nutritional status can be caused by two factors, namely, directly and indirectly. Direct factors are such as food intake and infectious diseases. Indirect factors are such as the family economy, parenting, closest health services, and sanitation. School-age children have begun to possess an active consumer characteristic that is starting to choose foods that are only preferred. In Indonesia, most school-age children live in environments that offer a lot of high-energy foods that are cheap, tasty, and have little nutritional content, such as foods and drinks that contain large portions of sugar. It causes school-age children to eat less fibrous foods, such as fruits and vegetables, and tend to consume fast food frequently.[16]

CONCLUSION

Based on the research results obtained, the nutritional status of children aged 6 - 60 months at Khanza Daycare has a good nutritional level, so working mothers do not need to worry about entrusting their children to the daycare.

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