

NUTRITION STATUS OF CHILDREN IN KEBON PALA, JAKARTA

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ORIGINAL ARTICLE

NUTRITION STATUS OF CHILDREN IN KEBON PALA, JAKARTA

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ABSTRACT

Background: Child development measured by their body height and weight, to projected to their predicted growth. We may find profile of national children growth, but rarely find the profile of the growth increments. This study conducted to find the nutritional status of children in Kebon Pala, Jakarta. **Methods:** This study is a quantitative descriptive research that used a quantitative approach to measure children body height, body weight, and their increments 3 months after initial assessment. The data compared with WHO growth standard to classify the nutritional status. **Results:** 17.14% boy and 12.5% girl were short, 11.42% boys and 17.5% were tall, 17% boys and 23% were underweight, 11% boys and 10% were overweight, 43.75% boys and 85.71% girls wasted their height, 75% girls and 43.75% boys wasted their weight. **Conclusion:** Prevalence of under nutrition not significantly higher than over nutrition, and prevalence of wasted happen from failure to gain weight and height.

Keywords: Child; Growth; Development; Body Mass Index

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INTRODUCTION

Every children have their own unique needs for their growth and development, based on their physical and psychological characters. Growth and development become different, regarding of stimulation from their environment. Beginning from their born day until six years old, children grow significantly, from about 45 cm became about 100 cm, and from about 3.5 kg became about 25 kg. And throughout this golden period, they will develop sensomomotor ability⁶ that will become starter of intelegency, speaking and social ability. The development process need to be considered as they are growing⁵, as growth and development is related to each other. A fine growth will potentially help their development, and moreover, a better future¹¹.

Despite that importance of growth for children' development, Indonesia still facing double burden of nutrition, where obesity as a sign of over nutrition and stunting as a sign of undernutrition were existing together. To measure children growth, we use growth charts, which allow the visualization of anthropometric parameters and are widely used to evaluate growth and health status of children and adolescents. They play an essential role in the detection and evaluation of abnormalities in growth and development. Several countries have developed and used their own growth charts, but Indonesia has been using WHO Chart to measure child growth. The World Health Organization constructed various growth references intended for global use that are directly derived or indirectly affected by body height, but the WHO core sample is based on country-specific, relatively small. In Indonesia, there are 17,7% children facing malnutrition, 30,8% very short and short, 10,2% very thin and thin, 8%

overweight¹⁷. Child wasting, that refers to a child who is too thin for his or her height and is the result of recent rapid weight loss or the failure to gain weight were not assessed yet through basic health research (Riset Kesehatan Dasar, Riskesdas) that conducted by Health Development. Therefore, prevalence of wasting among children under 5 years of age in Indonesia were still unknown.

The objective of this study were to assess using the newly developed WHO international growth standard, including increments of height and weight. Including increments may fill gap between other studies^{21,17}.

METHODOLOGY

This study used a quantitative approach conducted in October 2021 as initial assessment of body height and body weight and in January 2022 as increment assessment of body growth. Data collected throughout Kebon Pala, Jakarta, from children within 0-7 years old. Participants were recruited through their parents using non-probability, voluntary sample method. Recruitment were based on in-person strategies, by local administrator that attaining informed consent approval from their own parents. Ethics approval was obtained by Fakultas Vokasi Universitas Kristen Indonesia in August 2021.

The measurement included age (in months), body height, and body weight. Body height and body weight is the most commonly used anthropometric measure for the assessment and classification of somatic status and growth. Body height of prewalker measured in supine position with tapemaker, and children that has been able to walk measured by digital body height counter. Body height records in meter.

Body weight measured by digital body weight scale, in kilogram.

All data were analyzed by microsoft excel. Body height and body weight compared with their age and predicted number of height and weight using WHO Chart²². Body height classified as short, normal and tall. Body weight classified as underweight, normal and overweight. Increment classified as below standard, normal, and higher than standard.

RESULTS

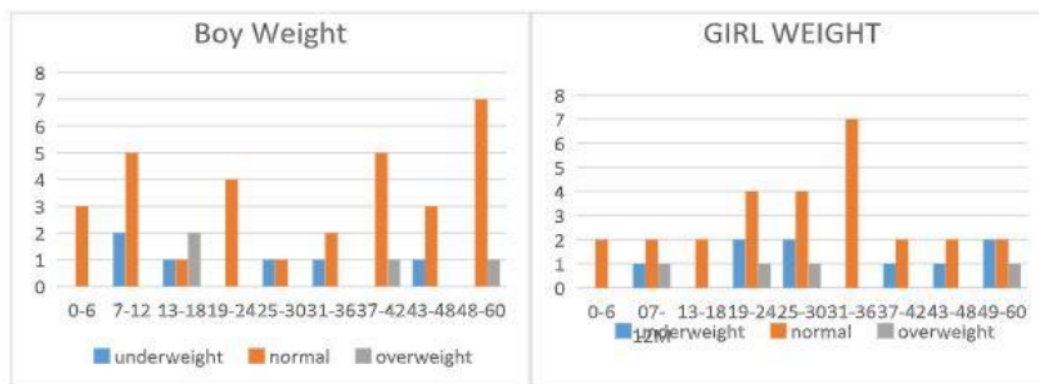
The proportion of respondent included for this research was nearly equal, consist of 35 boy and 40 girl that live in Jakarta as shown on Table 1.

The prevalence of underweight and overweight were higher on boys. As we may find in Picture 1, there are 6 of 35 boys (17%) were underweight, and only 9 of 40 girls (23%) were

underweight. And there are 4 of 35 boys (11%), and only 4 of 40 of girls (10%) were overweight.

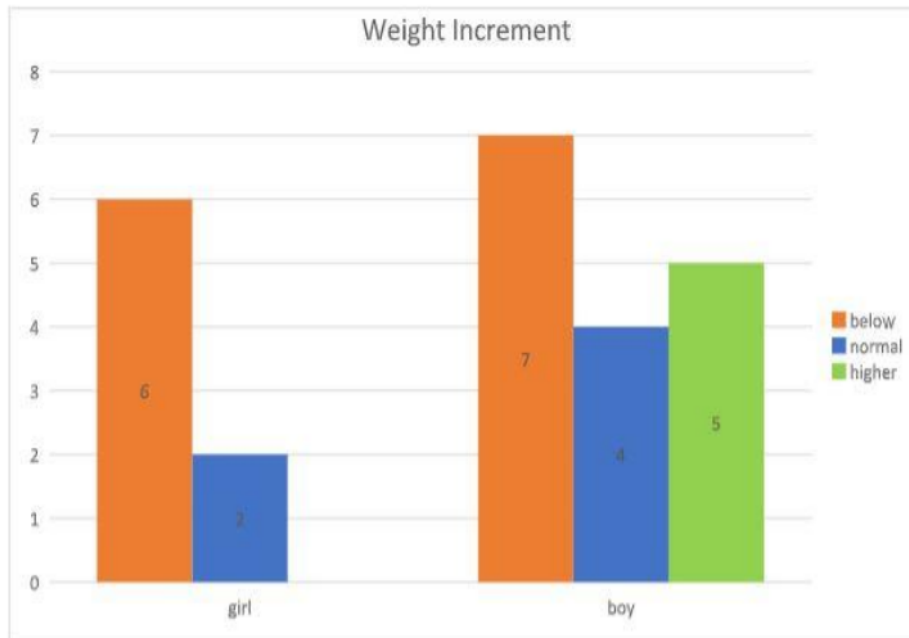
Characters	Amount	Percentage
Sex		
Boy	35	46.67%
Girl	40	53.33%
Age		
0-6	5	6.67%
7-12	11	14.67%
13-18	6	8%
19-24	12	16%
25-30	9	12%
31-36	11	14.67%
37-42	10	13.33%
43-48	5	6.67%
48-60	6	8%

Table 1. Characters of Respondents



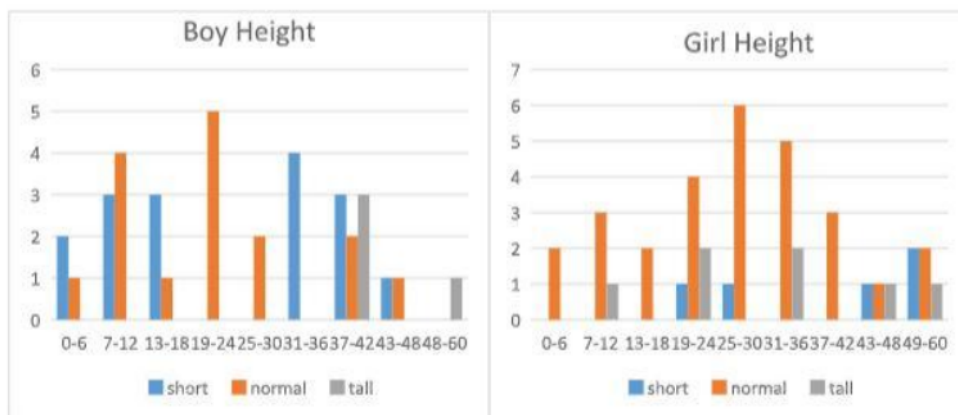
Picture 1. Child's weight per age

There are only 8 girls and 16 boys consecutively measuring their weight in 4 months. As we may find at Picture 2, 6 of 8 girls (75%) and 7 of 16 boys (43.75%) have lower weight increment than weight velocity predicted for their age, and only 5 of 16 boy (31.25%) weight increment that higher than weight velocity predicted for their age.



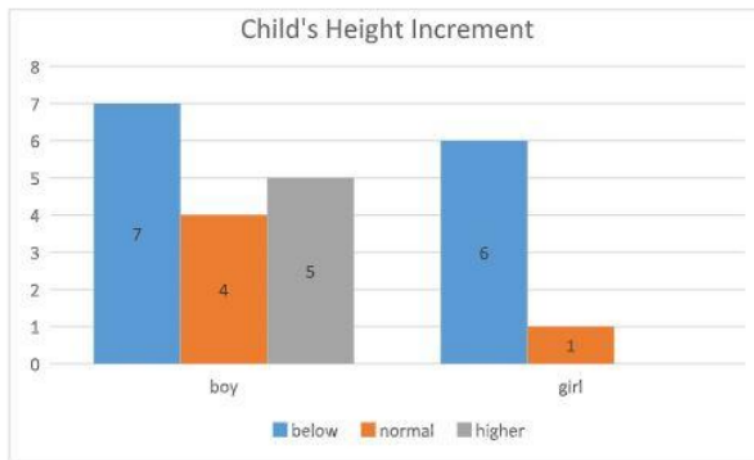
Picture 2. Child's Weight Increments

The prevalence of short children was also higher in boys than in girls. As we may find at Picture 3, 6 of 35 boys (17.14%) were short, and 4 of 35 boys (11.42%) were tall. As for girl, there are 5 of 40 girls (12.5%) were short, and 7 of 40 girls (17.5%) were tall.



Picture 3. Child's height per age

There are only 16 boys and 7 girl consecutively measured for height in 4 months. As we may find at Picture 4, there are 7 of 16 boys (43.75%) and 6 of 7 (85.71%) girls have lower height increment than predicted height velocity of their age, and only 5 of 16 boy (31.25%) have higher height increment than weight velocity predicted for their age.



Picture 4. Child's height increment

DISCUSSION

The prevalence of under nutrition were higher on girls. As we may find in Picture 2, there are 6 of 35 boys (17%) and 9 of 40 girls (23%) were thinner than their weight predicted per age. And for prevalence of over nutrition, there are 4 of 35 boys (11%), and only 4 of 40 of girls (10%) were overweight. There are only 8 girls and 16 boys consecutively measuring their weight in 4 months. As we may find at figure 4, 6 of 8 girls (75%) and 7 of 16 boys (43.75%) have lower weight increment than weight velocity predicted for their age, and only 5 of 16 boy (31.25%) weight increment that higher than weight velocity predicted for their age.

The prevalence of stunted were higher on boys, as 17.14% boys and 12.5% girls were short, as 11.42% boys and 17.5% of girls were tall. We may conclude that boys were shorter than girls. Interesting, as few studies find that boys are more likely to become stunted than girls^{8,11,12}. At birth, boys tend to be longer than girls²¹, but boys have greater dependence on their mother diet²⁰. Therefore, during breastfeeding period,

they may become shorter. As we may find at their body height (Picture 3) and height increments (Picture 4), after they are able to feed themselves, only 43.75% of boys that have slow body height velocity, and 85.71% girls have lower height increment than predicted height velocity of their age.

WHO presenting standard of growth velocity until two years age, as wasting is often peaking early in the second year of life, while stunting is often increasing over the whole age period. As we find in this study, that 85.71% girls facing wasting, it should be our concern and priority. Appropriate educational intervention on breastfeeding and complementary feeding are important to reduce the risk of malnutrition^{23,24}. If this case did not taken carefully, wasted children may lead to be stunted children. As wasting acts as an acute malnutrition, stunting is a chronic malnutrition. And stunted woman may lead to stunted future generation.

And for our other concern, the prevalence of overweight in this study far much higher than

national basic health research that reporting 8% of overweight on 2018¹⁷. It may be a challenge to us, as underweight and overweight happen together, as few studies find that overweight is too, a sign of malnutrition²⁵. And situation of obesity may lead to several problems, including social discrimination, low self-esteem, and risk of cardiovascular diseases. Treating overweight should be our concern, as we find that Indonesia focus more with child with stunting, than children with overweight.

CONCLUSION

By following the objectives of the study, based on the result and discussion above, we may conclude that prevalence of under nutrition, over nutrition and wasting were happen together.

The limitation of this study is that the number of respondent are not equal for age groups enlisted. Future investigation needed to find if this situation related with their parents and their intake. Therefore, we may arrange a target specific treatment for each families.

Conflict of interest: The author has no conflict of interest to declare.

Compliance with Ethics: This study was obtained ethical form University with reference number 553/UKI.F8.D/ PPM.1.6/2021.

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