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Relationship between Birth Weight and Child Parenting on Underweight Toddlers with Long Suffering Underweight in West Lombok

Masyhuri
Graduate Student in Health Policy and Administration
Faculty of Public Health, Universitas Airlangga, Indonesia
Email: masyhuriunair@yahoo.com

Abstract: Underweight toddlers are obtained from weighed activities held once a month by comparing body weight according to the age of the child. The percentage of underweight toddlers is the comparison between the number of underweight toddlers in one area over a certain period with the total number of toddlers weighed in one area over a period. The percentage of underweight toddlers in West Lombok during the period of 2014 until 2016 is still above 1%. The high rate of underweight children in 2016 is 2.71% compared to the target of 1.66% in West Lombok is a health problem that must be overcome. The purpose of this study is to know the relationship between parenting and infectious diseases with long suffering Underweight in toddlers in West Lombok. The type of this research is observational analytic with time approach in collecting data using cross-sectional study. Sample size obtained by 80 underweight toddlers. Statistical analysis was performed by Chi-Square test and Cochran's and Maentel-Haenszel used to find the relationship between birth weight and parenting with long-suffering underweight in toddlers. There was significant correlations between birth weight of underweight toddlers with long suffering from Underweight with p = 0.02, OR = 0.310, and 95% confidence interval 0.110 - 0.875. There was significant correlations between parenting underweight toddler with length suffering from underweight with p = 0.01, OR = 0.257, and 95% confidence interval 0.089 - 0.738. There is significant correlation between the birth weight and parenting underweight toddler with length suffering from underweight in West Lombok.

Keywords: birth weight, parenting, underweight toddler

1. INTRODUCTION

The main objective of national development is to improve the quality of human resources is done in a sustainable manner. Efforts to improve the quality of human resources began with the fulfillment of basic human needs with the main concern on the process of child development since conception until reaching young adults. The growth period requires the fulfillment of the basic needs of children such as care and nutritious food given lovingly to form a healthy, intelligent and productive human resources.

Underweight toddlers is a child of body weight by age (weight/age) is under the red line on Card To Health (called KMS). Underweight toddlers do not necessarily suffer from malnutrition or bad nutrition, but can be an early indicator that the child is experiencing nutritional problems. According to the Ministry of Health of the Republic of Indonesia (2005) underweight toddlers is a toddler who when weighed his weight was on the red line or under the red line on KMS. Weight under the red line on the KMS is an estimate to judge a child suffering from malnutrition, but that does not mean a toddler has malnutrition, because there are children who have a growth pattern that is always below the red line on KMS. Underweight does not indicate malnutrition but as a warning for confirmation and follow-up, which does not apply to children whose weight is already below the red line.

There are many factors that cause toddlers become malnutrition or bad nutrition, but directly caused by the consumption of food and infectious diseases. Food factor is one of the factors that directly affect the nutritional state of a person because the consumption of food that is not in accordance with the needs of the body, both quality and quantity can cause nutritional problems. In addition, the incidence of malnutrition and bad nutrition not only because of the lack of food, but also because of illness. Children get enough food but are often attacked by diarrhea or fever, eventually can suffer from Less Energy Protein (LEP). Conversely, children who eat is not good enough, the immune system can weaken so easily attacked by infection, lack of appetite, and finally susceptible to LEP.

Underweight toddlers are obtained from weighed activities held once a month by comparing body weight according to the age of the child. The percentage of underweight toddlers is the comparison between the number of underweight toddlers in one area over a certain period with the total number of toddlers weighed in one area over a period. The percentage of underweight toddlers in West Lombok during the period of 2014 until 2016 is still above 1%. The last target set for weight under the red line in 2010 was 5% and no recent targets have been released yet. However, some districts set for weight under the red line targets at 1% in their routine reports and West Nusa Tenggara is one of the districts that set for weight under the red line of 1% which is the reference for districts in the West Nusa Tenggara region. The high rate of underweight children in 2016 is 2.71% compared to the target of 1.66% in West Lombok is a health problem that must be overcome. The purpose of this study is to know the relationship between parenting and infectious diseases with long suffering Underweight in toddlers in West Lombok.

2. METHOD

The type of this research is observational analytic with time approach in collecting data using cross-sectional study means the measurement of research variables done in a time so that obtained picture of the state at that time. This research was conducted in West Lombok in the period of April 2017 until May 2017.

Population in this research is all underweight toddlers in West Lombok as 1.668 toddlers. Subjects in this study were underweight toddlers and family toddlers. Sample size according to Wiratna (2015), obtained by 80 underweight toddlers. Sampling technique in this study using multistage random sampling, first perform the separation of population based on certain strata, then do the sampling according to the strata of the population. The sample technique is used through two stages, the first stage determines the sample area, and the next stage determines the individual sample. Separation of regions is based on geographical location, including coastal/mountainous areas, downtown areas, and peripheral areas. Data analysis and calculation using SPSS version 20. Chi Square test statistic And Cochran's and Maentel-Haenszel used to find the relationship between birth weight and parenting with long-suffering underweight in toddlers.

3. RESULTS

General Description of Research Location

West Lombok is one of the districts from 10 district in the Province of West Tenggara with an area of 1,053.92 km² or 105,392 Ha. West Lombok is bordered by North Lombok in the north, Central Lombok in the east, Indonesia ocean in the south, and Lombok strait and Mataram city in the west.

In administrative district of West Lombok consists of 10 districts, 122 villages and 841 hamlets. The area of West Lombok is largely a combination of coastal and mountainous (hilly) land in the west, north and south, while in the east it is a densely populated area, periphery and border with other districts. The number of residents in West Lombok in 2016 is 665,132 people with the average number of people in each household of 3.56 and population density per Km² of 631.

Respondent Characteristics

The respondents in this research are 80 underweight toddlers and their families. Characteristics of respondents can be seen in table 1.

Table 1 Characteristics of Underweight Toddlers and Families

Characteristic of Underweight Toddlers and Families	n	(%)
Gender		
Male	36	45.0
Female	44	55.0
Total	80	100.0
Age		
0-5 months	1	1.3
6-23 months	25	31.2
24-59 months	54	67.5
Total	80	100.0
Age start underweight		
0-5 months	11	13.8
6-23 months	54	67.5
24-59 months	15	18.7
Total	80	100.0
Long Suffering Underweight		
0-23 months	59	73.7
24-59 months	21	26.3
Total	80	100.0
Birth Weight		
Low (< 2.500 grams)	26	32.5
Normal (≥ 2.500 grams)	54	67.5
Total	80	100.0
Parenting		
Poor	24	30.0
Good	56	70.0
Total	80	100.0

Gender of Underweight Toddlers

Table 1 above shows that most underweight toddlers are female as much as 55.0%, and 45.0% are male. However, the comparison between sexes of male and female in this study is indicates that the incidence of underweight toddlers occurs almost equally between male and female.

Underweight Toddler Age

Underweight toddler age in this study expressed in months. Age is calculated by reducing the weighing date to the child's birth date. Underweight toddler age as shown in Table 1 is mostly (67.5%) aged between 24-59 months, 31.2% are between 6-23 months old, and only 1.3% are aged between 0-5 months old. The lowest underweight toddler age is 3 months, the highest is 59 months old, and the mean of underweight toddler age is 32 months.

Age Starts Underweight

Underweight starting age is the age of the child when first had underweight and expressed in months. Table 1 illustrates that toddlers with underweight conditions began (67.5%) were aged 6-23 months, 18.7% at 6-23 months old and 13.8% at 0-5 months old. Age of toddlers suffering from underweight youngest at 0 months old and oldest at 55 months and average age starting under the red line at 15 months.

Length Suffered Underweight

The length of the toddlers suffering from underweight is obtained by reducing the child's current age by the age of the child starting to suffer underweight and expressed in months. Based on Table 1 it can be seen that mostly (73.7%) underweight toddlers suffer weight below the red line for 6-23 months, and 26.3% for 24-59 months. The lowest suffer underweight for 1 month and the highest for 54 months, and the average suffer underweight for 18 months.

Birth Weight

Table 1 shows that mostly (67.5%) toddlers had normal birth weight (≥ 2,500 grams), and there were 32.5% of toddlers had low birth weight (< 2,500 grams).

Parenting Underweight Toddler

Table 1 above shows that parenting underweight toddlers is mostly good (70.0%), but there are still 30.0% with parenting underweight toddlers.

Correlations between Birth Weight Underweight Toddlers with Long Suffering Underweight Toddlers

Chi Square statistical test results showed that there is a significant correlations between birth weight of underweight toddlers with long suffering from Underweight. The same result was obtained by using *Cochran's and Maentel-Haensz* test statistic with p = 0,02, OR = 0,310, and 95% confidence interval 0,110 - 0,875. The result of the correlations between birth weight of underweight toddler with long suffering from underweight, can be seen in table 2.

Table 2 Correlations between Birth Weight of Underweight Toddlers with Long Suffering from Underweight

Birth Weight	Long Suffering from underweight				OR	P Value	95% CI
	0-23 months		24-59 months				
	n	%	n	%			
Low (<2.500 gr)	15	18.8	11	13.8	0.3	0.02	0.110 – 0.875
Normal (≥2.500 gr)	44	55.0	10	12.5			
Total	59	73.7	21	26.3			

Table 2 above shows that underweight toddlers with low birth weight (< 2,500 grams) had risk from suffering underweight 0.310 times longer between 24-59 months compared with underweight toddlers with normal weight birth (≥ 2,500 gram). In addition underweight toddlers with low birth weight have a risk at least 0.110 times from suffering underweight between 24-59 months, and mostly at risk 0.875 times from suffering underweight between 24-59 months.

Correlations between Parenting Underweight Toddlers with Length Suffer from Underweight

Chi Square test analysis shows that there is a significant correlations between parenting underweight toddler with length suffering from underweight. The same result was obtained by using *Cochran's and Maentel-Haenszel* statistic test with p = 0.01, OR = 0.257, and 95% confidence interval 0.089 - 0.738. The result of correlations between parenting underweight toddlers with length suffering from underweight, can be seen in table 3.

Table 3. Relationship Parenting of Underweight Toddlers with Length from suffering underweight

Parenting of Underweight Toddlers	Length suffering from underweight				OR	P Value	95% CI
	0-23 months		24-59 months				
	n	%	n	%			
Poor	13	16.3	11	13.7	0,257	0.01	0.089 – 0.738
Good	46	57.5	10	12.5			
Total	59	73.7	21	26.3			

Table 3 above shows that underweight toddlers with poor parenting background have a risk of suffering from underweight 0.257 times longer between 24-59 months compared with underweight toddlers with good parenting background. In addition underweight toddlers who have poor parenting background have a risk at least 0.089 times suffer from underweight between 24-59 months, and most at risk 0.738 times had underweight suffered between 24-59 months.

4. DISCUSSION

Sex of Underweight Toddler

The results of this study showed that most underweight toddlers are female of 55.0% and the others are male. Basically the nutritional needs of male and female are different and usually male are higher because they have higher physical activity than female cause food priority for male in the family is often higher so that female become more often malnourished.

This study had same results of research from Devi (2010), indicating that malnutrition is more prevalent in female than male. Nutritional status is directly determined by food intake and infectious diseases. Permatasari, et al (2015), showed that female had a 3.333 times greater had of dengue infection than male. Children infected with the disease will experience impaired absorption of nutrients that encourage the decrease of appetite of children resulted in decreased nutritional intake of children and if lasted for long periods can lead to decreased nutritional status.

Age of Underweight Toddler

Age of underweight toddlers expressed in months with the rules of writing age. Age will determine the nutritional needs of children, the more children age the more nutritional needs. The results of this study illustrates that most underweight toddlers (67.5%) are aged 24-59 months. Age 24-59 months is the period of children do a high activity and begun to know many kinds of foods with various flavors and aromas so the process of selecting foods not always have enough nutritional value. High activity if not accompanied by the intake of nutrient-rich foods will result in malnourished children and susceptible to disease due to decreased endurance.

Age Starts Underweight

The results of this study indicate that the age of children begin to suffer underweight mostly (67.5%) occur at age 6-23 months. This period is the first 1,000 days of life which includes breastfeeding and complementary feeding. The better of breastfeeding and MP-ASI at this time it can improve the growth chart of the child. The non-fulfillment of nutritional intake especially through the provision of MP-ASI in West Lombok, especially for the poor due to the limited MP-ASI available. One of the causes of low nutritional status of children who started at age 6 months is the start of give MP-ASI, so the quality of food consumed is very dependent on his parents. The low ability of the purchasing of materials and processing of MP-ASI of underweight toddlers from local food is caused by low income, and lack of knowledge.

The current giving of MP-ASI indicates maternal behavior on the timeliness of feeding, feeding technique, feeding frequency and form of MP-ASI. Hariani, et al (2016), showed that the better the feeding of MP-ASI then the better the child growth chart on KMS. Septiana, et al (2010) also showed a significant relationship between the feeding MP-ASI that seen from the energy consumption level with the nutritional status of children aged 6-24 months at Gedongtengen Health Center, Yogyakarta.

Length Suffering from Underweight

Length suffering from underweight is the first times condition children suffer from underweight until now still suffers from underweight, although on the way there is weight gain and increased nutritional status. However, due to various causes that a rise resulted in the child get suffering from underweight again until now. The results of this study indicate that most (73.7%) underweight toddlers suffer from underweight for 6-23 months. There are several underweight toddlers who are respondents in this study, since birth have suffered underweight that caused to premature birth, twin, and low birth weight. This condition if not handled will be able to reduce the nutritional status.

Correlation between Birth Weight of Underweight Toddlers with Length Suffering from Underweight

The results of this study showed that 13.8% underweight toddlers born with low weight

suffered underweight for 24-59 months. There is a tendency that the lower the birth weight of underweight toddlers then the longer the child will suffering from underweight and malnutrition. Babies with low birth weight have a low immune system that is easy to get infectious diseases. The risk of dying before the age of 1 year is 17 times higher than a normal baby. Babies with low birth weight tend to have stunted physical growth. Several studies have shown that the risk of becoming malnourished is less than 8-10 times greater than that of normal children. The level of intelligence is low because of the disruption in brain growth since the womb.

The results of this study are same with the results of research Nengsih, et al (2016), indicating that there is a relationship between birth history of low birth weight with infant growth, and children with birth history low birth weight has 6 times higher risk of abnormal growth. The incidence of underweight toddlers is caused by digestive tract in children born with low birth weight not functioning well compared with children born normal so the process of food absorption optimally.

Correlations between Parenting at Underweight Toddlers with Length Suffering from Underweight

Family Parenting is a way taken by family to care providing to her child as a form of concern, affection, and emotional bonding. The results of this study indicate that most (70.0%) family parenting are good, and only 30.0% are classified as less good. There are 13.7% of underweight toddlers who come from families with poor upbringing pattern suffer from underweight for 24-59 months. Underweight toddlers who derived from poor family parenting tend to suffer from underweight longer than the family with good parenting. This means that family parenting are related to long-standing from underweight. The results of this study contrasted with the results of research Asrar, et al (2009), which shows that there is no significant correlations between the family parenting with the nutritional status of toddlers of the tribe of Naulu people in Amahai Sub-district of Central Maluku, Maluku. Helmi (2013), also found that there is no relationship between parenting with nutritional status of toodlers in Primary health care Margototo Kecamatan Metro Kibang, East Lampung. However, the results of this study are

same with Pratiwi's, et al. (2016), which finds that there is a significant correlations between family parenting, especially eating patterns and health care patterns with nutritional status of toddlers in the area of Primary health care Belimbing Kota Padang. This difference results is more due to the method and hypothesis used as well as the characteristics of the research location.

Child parenting are behaviors that practiced by caregivers (mother, father, grandmother, family or others) in child feeding, basic child care, stimulation, child hygiene and environmental health and emotional support for child growth. The results of this study also found that most (85.0%) of underweight toddlers raised by the mother, nurse grandmother of 13.7%, and aunt of 1.3%. Most caregivers who are underweight toddler's mothers bring maximum attention as a form of affection and emotional bond between parents (mother) with children so that the family parenting to be good.

Adequate parenting practices are essential for the child's endurance as well as optimizing the child's physical and mental development as well as the good health of the child. Parenting also contributes to the well-being and happiness and good quality of life for the child as a whole. Inadequate care of children, especially food security and child health, can be one of the factors that deliver children suffering from malnutrition.

5. CONCLUSION

Based on the results of this study, the following conclusions are obtained: there is a significant correlations between birth weight at underweight toddlers with length suffering from underweight. Underweight toddlers with low birth weight (< 2,500 grams) have a risk of developing underweight 0.310 times longer between 24-59 months compared to underweight toddlers born with normal weight (≥ 2,500 grams). In addition underweight toddlers born with low weight have a risk of at least 0.110 times had underweight between 24-59 months, and most at risk 0.875 times had underweight suffered between 24-59 months.

There are significant correlations between underweight toddler parenting with length suffering from underweight. Underweight toddlers with poor parenting background has a risk of suffering from underweight 0.257 times longer between 24-59 months compared with underweight toddlers with good parenting background. In addition underweight toddlers who have poor upbringing risk at least 0.089 times suffer from underweight between 24-59 months, and most at risk 0.738

times suffer from underweight between 24-59 months.

Handling of underweight toddler can be improved in various ways, involving cross sector and cross program, and of course the role of the family and the surrounding community. Health

office and primary health care can make innovation and creativity in conducting underweight toddler surveillance for early detection and prevention of underweight toddlers. Community can support underweight child by willingness and consciousness sharing both material and non material so that there is shame for society if in its area there are children with malnutrition as well as malnutrition.

REFERENCES

1. Asrar, M., Hadi, H. & Boediman, D., 2009. Patterns of fostering, diet, nutritional intake and its relationship with the nutritional status of children under five years of the Naulu tribe in Amahai Sub-district of Central Maluku, Maluku Province. Journal of Clinical Nutrition Indonesia, VI (2), pp. 84-94.
2. Ministry of Health RI, 2005. Guidelines on Management of Breastfeeding Supplementary Foods. 1st ed. Jakarta: MOH RI.
3. Ministry of Health, 2007. KIE Strategy Guidelines for Family Nutrition Awareness (Kadarzi). 1st ed. Jakarta: MOH RI.
4. Devi, M., 2010. Analysis of Factors Affecting the Status of Nutritional Under-fives in Rural Areas. Technology and Vocational, XXXIII (2), pp. 183-192.
5. Health Office of West Lombok, 2017. Health Profile 2016, Gerung: Dikes Lombok Barat.
6. Hariani, R. E., Amareta, D. I. & Suryana, A. L., 2016. Breastfeeding and Breastfeeding Supplement Patterns on Growth Charts on Healthy Card (KMS). Journal of Scientific Innovation, I (1), pp. 41-46.
7. Helmi, R., 2013. Factors Associated with Nutritional Status of Underfives in Work Area of Margototo Public Health Center of Metro Kibang Sub-district, East Lampung District. Journal of Health, IV (1), pp. 233-242.
8. Nengsih, U., Noviyanti & Djamhuri, D. S., 2016. Birth Weight Birth Weight Infant Birth Weight with Growth of Toddler Children. Journal of Midwife "Midwife Journal", II (2), pp. 59-67.
9. Permatasari, D. Y., Ramaningrum, G. & Novitasari, A., 2015. Relationship of Nutritional Status, Age and Sex with Dengue Infection Degree in children. Journal of Medicine of Muhammadiyah, II (1), pp. 24-28.
10. Pratiwi, T. D., Masrul & Yerizel, E., 2016. Relationship of Maternal Care Pattern with Nutritional Status of Toddlers in the Working Area of Primary health care Belimbing Kota Padang. Journal of Health Andalas, V (3), pp. 661-665.
11. Septiana, R., Djannah, R. S. N. & Djamil, D. M., 2010. Relationship between Breastfeeding Supplement Pattern (MP-ASI) and Nutritional Status of Toddlers Age 6-24 Months in Working Area of Gedongtengen Health Center, Yogyakarta. Journal of Public Health, IV (2), pp. 118-124.
12. Soekirman, 2006. Healthy Life, Balanced Nutrition In Human Life Cycle. Jakarta: Primamedia Pustaka.
13. Sugiyono, 2016. Quantitative Research Methods, Qualitative and R & D. 23th ed. Bandung: Alfabeta.
14. Wijono, D., 2009. Community Nutrition Management Management. 1st ed. Surabaya: CV. Duta Prima Airlangga.
15. Wiratna, S. V., 2015. Statistics For Health. 1st ed. Yogyakarta: Gava Media.