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HUBUNGAN PENGETAHUAN IBU TENTANG GIZI DAN BERAT BADAN LAHIR RENDAH DENGAN KEJADIAN STUNTING PADA ANAK DI KABUPATEN TAKALAR

The Relationship between Mother's Knowledge about Nutrition and Low Birth Weight with the Incidence of Stunting among Children in Takalar Regency

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Abstrak

Pendahuluan: Malnutrisi pada anak yang bermanifestasi sebagai stunting setelah balita menginjak usia dua tahun. Nutrisi yang cukup dapat meningkatkan daya tahan tubuh, tubuh terbebas dari segala penyakit dan meningkatkan proses tumbuh kembang anak hingga mencapai tingkat optimal. **Tujuan:** untuk mengetahui hubungan pengetahuan gizi ibu dan berat badan lahir rendah dengan kejadian stunting pada anak. **Metode:** Desain studi cross sectional dilakukan. 39 peserta direkrut dari puskesmas di Kabupaten Takalar, Indonesia dengan convenience sampling. Pesertanya adalah anak-anak berusia 1-5 tahun. Kami akan mengecualikan anak-anak dengan penyakit kronis. Chi-square digunakan untuk memprediksi variabel independen. **Hasil**: Angka kejadian BBLR disertai stunting sebanyak 20 responden, sedangkan yang tidak mengalami BBLR namun mengalami stunting sebanyak 19 responden, dan kejadian BBLR namun tidak stunting sebanyak 12 responden, sedangkan tidak BBLR tanpa stunting. stunting sebanyak 84 responden. Berdasarkan uji Chi-Square menunjukkan ada hubungan antara pengetahuan ibu tentang gizi dan berat badan lahir rendah dengan kejadian stunting pada anak di Kabupaten Takalar dengan p-value = 0,001. **Simpulan**: konseling kesehatan yang rutin diperlukan untuk mengembangkan kesadaran gizi orang tua khususnya pengetahuan ibu untuk membangun keluarga sadar gizi. Anak balita sebaiknya sepantau tumbuh kembangnya secara rutin dengan mengukur tinggi badannya di puskesmas.

Abstract

Introduction: *Childhood malnutrition manifests as stunting after the age of two. Adequate nutrition can increase endurance, the body is free from all diseases and improve the growth and development process of children to reach optimal levels.* ***Objective:*** *to determine the relationship between maternal nutritional knowledge and low birth weight with the incidence of stunting in children.* ***Methods****: A cross sectional study design was conducted. 39 participants were recruited from health centers in Takalar District, Indonesia by convenience sampling. The participants were children aged 1-5 years. We will exclude children with chronic diseases. Chi-square was used to predict independent variables.* ***Results:*** *The incidence of LBW with stunting was 20 respondents, while those who did not experience LBW but experienced stunting were 19 respondents, and the incidence of LBW but not stunting was 12 respondents, while those who did not experience LBW without stunting were 84 respondents. Based on the Chi-Square test, there is a relationship between maternal knowledge about nutrition and low birth weight with the incidence of stunting in children in Takalar Regency with a p-value = 0.001.* ***Conclusion:*** *routine health counseling is needed to develop parents' nutritional awareness, especially mothers' knowledge to build a nutrition-aware family..*

BACKGROUND

The incidence of stunted toddlers in Indonesia is still 24.4 percent, or 5.33 million toddlers, according to data from the Indonesian Toddler Nutritional Status Survey (SSGBI) in 2021. Stunting prevalence has decreased in recent years.

South Sulawesi has a stunting rate of 15 percent ranging from 159,375 to 151,398. In Takalar Regency, the percentage of stunted children reached 44 percent in 2019 and fell to 25% in 2020. The percentage of LBW incidence in South Sulawesi in 2020 was 4.24% of 154,733 live births. The lowest number of LBW cases occurred in Takalar Regency at 1.22% of the 5,817 live births. Bontokadatto itself has been included in the locus data three times (special stunting location).

Malnutrition in toddlers begins with the period in the womb at the time after the baby is born, this stunting condition begins to be seen after the toddler starts to turn 2 years old (de Souza et al., 2011; Roseboom et al., 2011). Toddlers with stunting will have a lack of intelligence, become vulnerable to disease and in the future may be at risk of decreased productivity compared to normal toddlers (Gashu et al., 2015; Supriatin et al., 2020). Balanced nutrition is a daily food arrangement that contains nutrients in types and amounts that are in accordance with the needs of the body, by paying attention to the principles of food diversity, physical activity, clean living behavior and monitoring weight regularly to maintain normal weight and prevent nutritional problems (Halim et al., 2021; Mantasia & Sumarmi, 2022).

Nutritional status is a factor that affects a child's health and development. Good nutritional status can help the child's development process to reach optimal (Rosyidah et al., 2021). Adequate nutrition can improve the body's resistance so that it is hoped that the body will be free from all diseases while unfulfilled nutrition will cause nutritional problems in children.

There are many factors that cause stunting, including LBW (Febriani et al., 2020). Babies whose birth weight is less than 2,500-grams will carry the risk of death, impaired child growth, including being at risk of becoming short if not treated properly. Previous research show that children with an LBW birth history are more likely to be stunted than children who do not have LBW (Kusumawati et al., 2018; Lestari et al., 2018).

Low knowledge and education of parents, especially mothers, is an important contributing factor to the lack of protein energy. This is because there is a link between the role of mothers in taking care of the household, especially their children. The level of education and knowledge of the mother greatly affects the level of the mother's ability to manage family resources, to obtain the adequacy of the food needed. Low maternal education can lead to low maternal understanding of what is needed for the optimal development of the child (Laksono et al., 2022). Maternal nutritional knowledge is one of the factors that determine a person's food consumption.

Stunting is a disease that must be watched out for and prevented early, seeing the increasing prevalence of stunting every year makes us as health workers obliged to provide early education to parents, how to prevent stunting by looking at the nutritional status of children (Casale et al., 2018; Vikram & Vanneman, 2020).

Based on the description above, this study aims to determine the relationship between maternal nutrition knowledge and low birth weight with the incidence of stunting in children in Takalar Regency.

METHODS

The research design used in this study is a retrospective study to find out LBW in children by looking back to find out the history of Low Birth Weight that children have experienced. Observational measurements of independent variable

and dependent data are measured only once at a time.

The population in this study was all mothers who had children aged 1-5 years and were stunted. The samples in this study were all mothers who had children aged 1-5 years who were in Bontokdatto Village, Takalar Regency. With inclusion criteria 1) Willing to be a respondent 2) Mothers who have children aged 1-5 years. The exclusion criteria are 1) Resigning when the study takes place 2) Children suffering from chronic diseases. The sampling technique in this study used total sampling.

This research was conducted from June to July 2022. The place where the research was conducted was in Bontokadatto Village, Takalar Regency.

Measurement of stunting by using meters and scales, if TB / U -3SD Up to <-2SD then it is said to be Stunting and if TB / U -2SD Up to 2SD eating is said not to be stunting. Mothers' knowledge of nutrition was measured using a questionnaire with 20 questions using the Guttman scale, said to be good: if the answer is correct ≥ 10, and less if the answer is correct ≤10. LBW is measured using a questionnaire, it says LBW if ≤ 2500 gr and it says No LBW if ≥2500gr.

Analysis data tested using Chi-square using SPSS with p-value <0.05.

RESULTS

Characteristics of Respondents

Table 1 shows that most fathers have a high school education of 65 (48.1%), with the employment of most farmers as much as 83 (61.5%). Majority mothers have a high school education of 76 (56.3%), with most IRT jobs as many as 119 (88.1%).

Most children with gender girls were 72 (53.3 %), with 89 (65.9%) aged 1–3 years. Majority respondent was the first child of 55 (40.7 %).

Table 1 Distribution of respondents based on the characteristics of parents and children in the Working Area of the South Polombangkeng Health Center Takalar Regency in 2022

Variable	*n*	%
Father's Education		
No School	8	5.9
Elementary school	23	17.0
Junior high school	25	18.5
Senior high school	65	48.1
University	14	10.4
Father's Job		
Farmer	83	61,5
Craftsman	11	8,1
Self-employed.	17	12,6
Private Employees	11	8,1
Civil servants	13	9,6
Mother's Education		
No School	4	3.0
Elementary School	24	17,8
Junior high school	22	16,3
Senior high school	76	56,3
University	9	6,7
Mother's Job		
Housewife	119	88,1
Self-employed.	7	5,2
Private Employees	5	3.7
Civil servants	4	3.0
Gender		
Boy	63	46.7
Girl	72	53.3
Age		
1 – 3 Years	89	65,9
> 3 – 5 Years	46	34,1
Child To-		
1	55	40,7
2	45	33,3
3	23	17,0
4	12	8,9

Primary Data Sources 2022

The Relationship of Knowledge about Nutrition with the incidence of stunting.

Based on Table 2 was seen that the relationship between maternal knowledge about nutrition and the incidence of stunting in children aged 1-5 years in Bontokadatto Village, Takalar Regency, respondents with less knowledge with stunting were 33 (67.5%) respondents, while sufficient knowledge but

experienced stunting events as many as 6 (4.4%) respondents.

Table 2 The relationship of maternal knowledge about nutrition to the incidence of stunting in Bontokadatto Village, Takalar Regency Year 2022

Knowledge of nutrition	Stunting incidence		*p-value*
	Stunting	No stunting	
	n (%)	*n* (%)	
Less	33 (24.4)	21 (15.6)	0.001
Enough	6 (4.4)	75 (55.6)	

Primary Data Sources 2022

Based on the Chi-Square test, a calculated value *of* p-value= 0.001 is smaller than the value of α = 0.05. There is a relationship between maternal knowledge about nutrition and the incidence of stunting in children aged 1-5 years in Bontokadatto Village, Takalar Regency.

The relationship of LBW to stunting incidence.

Table 3 The relationship between LBW and stunting in Bontokadatto Village, Takalar Regency, in 2022.

LBW	Stunting incidence		*p-value*
	Stunting	No stunting	
	n (%)	*n* (%)	
LBW	20 (14.8)	12 (8.9)	0.001
No LBW	19 (14.1)	84 (62.2)	

Primary Data Sources 2022

Based on the results of Table 3 seen that the relationship between LBW and stunting incidence in children aged 1-5 years in Bontokadatto Village, Takalar Regency. LBW with stunting was 20 (14.8%) respondents, while not LBW with no stunting was 84 (62.2%) respondents.

Based on the Chi-Square test, a calculated value *of p-value* = 0.001 is smaller than the value of α = 0.05. From the analysis, it can be interpreted that Ha was accepted and Ho was rejected or there was a relationship between LBW and the incidence of stunting in children aged 1-5 years in Bontokadatto Village, Takalar Regency.

DISCUSSION

There were 28.9% of respondents who experienced stunting caused by LBW and malnutrition. Babies whose birth weight is less than 2,500-grams will carry the risk of stunting, growth disorders, and risk becoming short if not treated properly (Rahman, 2016). This is also supported by research conducted by Tiwari which states that children with a history of LBW birth are at risk of stunting compared to children who do not suffer from LBW (Tiwari et al., 2020).

Nutritional status is a factor that affects a child's health and development. Good nutritional status can help the process of optimal child development. Adequate nutrition can improve the body's resistance so that it is hoped that the body will be free from all diseases while unfulfilled nutrition will cause nutritional problems in children (Harding et al., 2017). These findings are consistent with Susanti (2021) research, which found a link between mother nutrition awareness and the prevalence of stunting among children (Susanti & Dewi, 2022). Strengthened by the results of the study (Maulida 2022) which said that there was a significant relationship between nutritional status and stunting incidence, where the majority with a very short stunting incidence of 69.2% in East Aceh Regency in 2021 (Maulida, 2022).

The results of the study were 75 (55.6%) respondents who had sufficient knowledge by not stunting and less knowledge with stunting as many as 33 (67.5%) respondents. This proves that the level of knowledge of respondents is very influential with the incidence of stunting. Good information produces an excellent attitude, and if the behavior is considered acceptable, good behavior follows.

Knowledge is obtained from information gained through both formal education and non-formal media such as radio, television, the internet, newspapers, and magazines (Ni'mah & Muniroh, 2015).

The results of this study are in line with the previous research from Atikah Rahayu (2018) that the knowledge and education of parents, especially mothers, is an important contributing factor to the lack of protein energy (Rahayu et al., 2018). This is because there is a link between the role of mothers in taking care of the household, especially their children. Mother's knowledge greatly affects the level of the mother's ability to manage family resources, to obtain the adequacy of the food needed. Low maternal education can lead to low maternal understanding of what is needed for the optimal development of the child.

Knowledge greatly influences the receipt of information about nutrition. People with low knowledge will better maintain food-related traditions, making it difficult to receive new information in the field of Nutrition. In addition, the level of education also determines whether a person is easy to receive knowledge (Sumarmi et al., 2022). The higher a mother's level of education, the easier it will be for her to absorb the information received including education and nutritional information that mother with nutrition education is expected to create a pattern of good and healthy habits (Hall et al., 2018).

The results of the study of 135 respondents did not experience LBW with a stunting incidence of 14.1% even though they did not experience LBW with stunting events can be influenced by other factors such as there were 9 people who were not given exclusive breastfeeding, there were 19 people who has low income and 15 people who lacked maternal knowledge about nutrition.

Weight is one of the indicators of newborn health. Birth weight is a commonly used parameter to describe the growth of the fetus during pregnancy. Babies with low birth weight will be more susceptible to adverse environmental influences in the future (Demelash et al., 2015). Children born with low weight have a greater risk of malnutrition. Growth and development will be slower which is characterized by weight gain and less than optimal height. Low birth weight will also produce a generation that is susceptible to infectious diseases.

The results of this study are in accordance with previous study that birth weight is directly related to growth and development (Aryastami et al., 2017). As a result, the next effect of LBW could be increased stumbling. A newborn born with LBW will struggle to catch up with early growth. A child's growth will be inhibited if it lags the average. This is in line with previous study that show a child who experiences LBW (Low Birth Weight) will later also experience growth deficits (a deficient anthropometric measure) in his adulthood (Upadhyay et al., 2019). Babies with low birth weight will face challenges in their growth and development, as well as the likelihood of intellectual function degeneration. Additionally, babies are more vulnerable to infection and hypothermia.

CONCLUSION

Nutritional issues are produced by mothers' inability to apply nutrition information in everyday life, even if the mother's knowledge of malnutrition, but not stunting, can be affected by other aspects such as exclusive breastfeeding and disease control such as diarrhea.

Birth weight has a meaningful relationship with stunting events. Low Birth Weight (LBW) is the most dominant risk factor for stunting among children. The characteristics of the baby at birth (LBW or normal BBL) are what determine the growth of the child. Children with a history of LBW experienced slower linear growth than children with a history of normal BBL

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