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Research Article

Relationship of Feeding Patterns and History of TB and Diarrhea in Children 2-5 Years Old and Stunting in Sukahayu Village, Sumedang, West Java, April 2019

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Abstract

Stunting is when children under five years old (toddlers) have a height-for-age index below minus two standard deviations based on the WHO standard. Stunting was a chronic nutritional problem caused by socioeconomic, maternal nutrition during pregnancy, nutritional intake during infancy, and infectious diseases. The purpose of this study was to determine the relations between feeding patterns and a history of Tuberculosis or diarrhoea in children aged 2-5 years with stunting. The type of this research was observational with a cross-sectional design. Samples were taken using a total sampling method of 34 samples. The study was conducted in April 2019 in Sukahayu Village, West Java. Data were collected by interviewing, measuring height and filling out the questionnaire. Bivariate analysis used Spearman's rho test. The results showed that stunting toddlers age the most at 25-36 month (50%), gender was equal between boy and girl (50%), 82.4% of stunting toddlers had a good pattern of feeding, had a history of TB 14.7% and had a history of diarrhoea 76.5%. The results of the Spearman's rho test showed no correlations between feeding patterns ($p=0.22$), history of TB ($p=0.55$) and history of diarrhoea ($p=0.37$) with stunting in Sukahayu Village. This study advises governments and health agencies to improve the nutritional status of stunting children and in the provision of standard anthropometric devices. The community is expected to get quality education and provide balanced nutrition to improve the health of children.

Keywords: Stunting, feeding pattern, history of Tuberculosis, history of diarrhoea

INTRODUCTION

Stunting (dwarfism) is a condition in which children under five years of age (toddlers) have a length or height that is less when compared to their age. This condition is measured by a length or height that is more than minus two standard deviations from the World Health Organization (WHO) median child growth standard. The incidence of short toddlers or commonly referred to as stunting, is one of the nutritional problems experienced by toddlers in the world today. In 2017, 22.2% or around 150.8 million children under five in the world were stunted. The data on the prevalence of stunting under five collected by WHO, Indonesia is the third country with the highest prevalence in the Southeast Asia/South-East Asia Regional (SEAR) region.¹ Where toddlers were very short and short aged 0-59 months in 2017 are 9.8% and 19.8%. Toddler stunting is a chronic nutritional problem caused by many factors such as socioeconomic conditions, maternal nutrition during pregnancy, illness in infants, and lack of nutritional intake in infants. Toddlers with stunting in the future will have difficulty achieving optimal physical and cognitive development.¹ The toddler period is a period that is very sensitive to the environment, so that more attention is needed, especially nutritional adequacy.² Nutritional problems, especially stunting in toddlers, can hinder the

development of children, with negative impacts that will last in the next life, such as intellectual decline, susceptibility to non-communicable diseases, decreased productivity, causing poverty and the risk of giving birth to babies with low birth weight.³

One of the causes of nutritional problems in toddlers is the poor feeding pattern given to toddlers, which will affect toddlers' growth process because the nutritional intake given is essential for toddlers' growth, health, and intelligence.⁴ It can cause children under five to experience an increased risk of morbidity and mortality, so that a healthy eating pattern will positively impact health in the future.⁵ One of the causes of morbidity in infants is an infectious disease caused by diarrhoea because poor hygiene and sanitation can interfere with the absorption of nutrients in the digestive process.¹ Some infectious diseases such as Tuberculosis (TB) can also cause under-fives to lose weight. The proportion of pulmonary TB cases in Indonesia in 2015 in the age group 0-14 years reached 8.59% and an increase compared to 2014, namely 7.10% and in 2013, namely 7.92%.⁶ Tuberculosis in children under five has the potential to cause various problems, ranging from cases of failure to thrive, disability, and even death, depending on the organ being attacked and the severity of the case. If this condition occurs for a long time and is not accompanied by adequate

intake for the healing process, it can result in stunting.⁶

In connection with this description, researchers are interested in researching the relationship between feeding patterns and a history of TB or diarrhoea for children aged 2-5 years to the incidence of stunting in the village of Sukahayu, Sumedang, West Java. It is undoubtedly useful, in addition to knowing toddlers who have a history of diarrhoea or TB. It can also be information for mothers that the importance of adequate nutrition for toddlers through good feeding patterns is one way to prevent toddlers from experiencing stunting. The formulation of the problem that is answered in this study is "How is the relationship between feeding patterns and a history of TB or diarrhoea to the stunting incidence in the village of Sukahayu, Sumedang, West Java. This research was conducted to determine the pattern of feeding and a history of TB or diarrhoea in the incidence of stunting in the village of Sukahayu, Sumedang, West Java.

LITERATURE REVIEW

Stunting was defined as a height or body length two points below the standard deviation (SD) according to age and sex. The state of stunting is determined based on nutritional status using the index of body length per age (PB/U) or height per age (TB/U), wherein anthropometric standards for assessing children's nutritional status and the measurement results are at the threshold (Z-Score) < -2 SD to -3 SD (short/stunted) and < -3 SD (very short / severely stunted). Stunting is a chronic malnutrition problem caused by insufficient nutritional intake for a long time due to feeding that is not following nutritional needs. Stunting can occur when the fetus is still in the womb and does not appear until the child is two years old^{7,8}. Stunting can be seen when a toddler has been weighed and measured the length or height, then compared with the standard, and the results are below average. So physically, toddlers will be shorter than toddlers their age. This calculation uses the standard Z score from WHO. Normal, Short and Very Short are nutritional status which is based on the index of Body Length according to Age (PB/U) or Height for Age (TB/U) which is the equivalent of the terms stunted (short) and severely stunted (very short). The following is the classification of stunting nutritional status based on indicators of height per age (height/age).^{7,8,9}

Very short: Z score < -3.0

Short : Z score < -2.0 until Z score ≥ -3.0

Normal : Zscore ≥ -2.0

Below is a classification of stunting nutritional status based on indicators of height/age and body weight/height (weight/height).⁷

Short-skinny : Z-score BH/age $< -2,0$ and Z-score BW/BH $< -2,0$

Short - normal : Z-score BH/age < -2.0 and Z-score BW/BH between -2.0 to 2.0

Stubborn: Z-score ≥ -2.0 to Z-score ≤ 2.0

Nutritional Status Monitoring (PSG) 2017 shows the prevalence of stunting under five in Indonesia is still high, namely 29.6% above the limit set by WHO (20%). Compared with countries in Latin America, the Middle East and North Africa, and Sub-Saharan Africa, Indonesia is still higher. Ricardo research in Bhutta in 2013 states that stunting under five contributes to 1.5 million (15%) of under-five mortality in the world and causes 55 million children to lose their healthy life every year.¹⁰ Several risk factors can influence the occurrence of stunting, namely: gender, parental education,¹¹ parental economy,¹² clean and healthy lifestyle,¹³ nutritional intake of children under five, infectious diseases, food availability.¹¹

Adverse effects that can be caused by stunting¹⁵: a) Short term is disruption of brain development, intelligence, physical growth disorders, and metabolic disorders in the body; and b) In the long term, the dire consequences that can be caused are reduced cognitive abilities and learning achievement, decreased immunity so that they get sick quickly, and a high risk of diabetes, obesity, heart and blood vessel disease, cancer, stroke, and disability in old age. All of this will reduce the quality of Indonesia's human resources, productivity and national competitiveness. Diet is the most important behaviour that can affect the state of nutrition. The quantity and quality of food and beverages consumed will affect the health level of individuals and society. Dietary recommendations in recent decades have taken into account the proportion of each food group according to their supposed needs. For example, it is currently recommended to consume more vegetables and fruits than previously recommended. During the first six months, babies only need breast milk because breast milk provides all the food and fluids that the baby needs for the first six months, and even in hot weather, breast milk will be able to quench the baby's thirst. Do not give anything other than breast milk, even plain water, to the baby during the first six months as this will make the baby lazy to breastfeed and reduce the amount of milk production. Water or other fluids and food can make babies sick because they can damage their digestion.¹⁶

Here are some of the benefits of breast milk: (1) Breast milk provides all the food and drinks with a baby needs for the first six months. (2) Providing exclusive breastfeeding for the first six months will protect the baby from various diseases, such as diarrhoea and respiratory infections. (3) If the mother gives exclusive breastfeeding to the baby during the first six months and has never experienced menstruation, eating the mother will avoid pregnancy.¹⁷ Complementary foods of breast milk (MP-ASI) is given when the baby is six months to 24 months old. MP-ASI is helpful for meeting nutritional needs apart from breast milk. MP-ASI in the solid or liquid food form, which is given gradually according to the age and digestive ability of the baby or child. The recommended dietary patterns for infants and toddlers and the frequency and amount of complementary feeding can be seen from the table below.¹⁸

Table 1: Recommended Diet for Infants and Toddlers

Age (month)	Breast milk	Mashed Food	Soft food	Family Meals
0 – 6				
6 – 9				
9 – 12				
12 - 24				

Description:

Age 0 - 6 months: breastfeeding only

Age 6 - 9 months: given breast milk and alternating crushed foods

Age 9-12 months: given alternating breastmilk and soft food

Age 12-24 months: given breast milk and family food

Table 2: Frequency and Amount of *c* Given

Age	Frequency	The amount with each meal
6 – 9 months	2-3 x mashed food + 1-2 x snack + breast milk	2-3 tablespoons full at each meal and slowly increase to half 1/2 of the 250 ml cup per meal
9 – 12 months	3-4 x soft food + 1-2 x snack + breast milk	½ cup 250 ml
12 – 24 months	3-4 x family food + 1-2 x snack + breast milk	¾ 250 ml bowl

The suggested number of servings according to energy sufficiency for 1-3 years and 4-6 years age groups:¹⁹

Table 3: Amount of Portion for 1-3 Years and 4-6 Years Age Groups

Food material	Children aged 1-3 years 1125 kcal	Children 4-6 years old 1600 kcal
Rice	3p	4p
Vegetables	1.5p	2p
Fruit	3p	3p
Tempe	1p	2p
Meat	1p	2p
Breast milk	Continued until the age of 2 years	
Milk	1p	1p
Oil	3p	4p
Sugar	2p	2p

Tuberculosis (TB) is a common and often deadly infectious disease caused by mycobacterium, usually *Mycobacterium tuberculosis* in humans. TB usually attacks the lungs but can also affect other parts of the body. TB can be spread through the air when a person who has this disease coughs, sneezes, or spits up. Most human infections result in infection, are asymptomatic latent, and about one in ten latent infections eventually progress to active disease, which, if left untreated, kills more than half of victims.²⁰

The management of TB in children is an inseparable unity between medical administration, nutritional management, and the surrounding environment. Medical provision is inseparable from health education to the public or the patient's parents about the importance of taking the medication regularly for a long time and monitoring the schedule for administering drugs, knowing that the drug is being taken, and so on. Since the late 1990s, several diseases

have recurred and become a problem, especially in developed countries TB. WHO estimates that one-third of the world's population (2 billion people) has been infected with *M. tuberculosis*, with the highest rates in Africa, Asia and Latin America. Tuberculosis is still the leading cause of death in developing countries. The data show that this disease is most concentrated in metropolitan urban centres. Here a meaningful percentage of the population living in poor neighbourhoods facilitate the transmission of the disease. Reports of TB in children are rare. It is estimated that the number of TB cases in children per year is 5% to 6% of the total TB cases. In developing countries, Tuberculosis in children aged <15 years is 15% of all TB cases, while in developed countries, the rate is lower at 5-7%.²¹

The risk factors for TB infection include children who have contact with adults with active TB, endemic areas, use of intravenous drugs, poverty, and an unhealthy

environment. The most critical risk factor for TB infection in children is exposure to adults infectious. It means, babies of a mother with a positive sputum smear have a high risk of TB infection. The closer the baby is to the mother, the more likely it is to be exposed to infectious droplet nuclei. The risk of transmitting germs from adults to children is higher if the adult patient has a positive sputum smear, there is a large infiltrate in the upper lobe or cavity, large and watery sputum production, productive and robust cough, and lack of environmental factors. Healthy, especially the air circulation, is not good.

People who have been infected with TB germs will not always be sick with TB. The following are the factors that can cause the progression of TB infection to become sick with TB. The first risk factor is age. Children \leq five years of age have a greater risk for progression of infection to become sick with TB, perhaps because their cellular immunity is not yet fully developed. The risk of getting TB disease will decrease with age. Other risk factors are conversion of tuberculin tests in the past 1-2 years, malnutrition, immunocompromised states, malignancy, organ transplantation, immunosuppressive treatment, diabetes mellitus, chronic renal failure, and silicosis. No less essential factors in TB epidemiology are low economic status, low income, overcrowding, unemployment, and low education.

Diarrhoea is still a public health problem in developing countries, including Indonesia and is one of the highest causes of death and morbidity in children, especially under five years of age. As many as 6 million children die each year due to diarrhoea. Most of these occurrences occur in developing countries. 42% of infant deaths are caused by diarrhoea. For groups 1-4 years, death due to diarrhoea reaches 25.5%.²² In general, the mode of transmission of diarrhoea is through the faecal-oral method, namely through food or drinks contaminated by enteropathogens or direct hand contact with sufferers or items that have been contaminated with patient faeces or indirectly through flies. In short, it can be said through "4F", namely finger (finger), flies (fly), fluid (fluid), and field (environment).

In general, diarrhoea is caused by two things, namely disruption in the absorption process. Diarrhoea due to absorption disorders, namely the volume of fluid in the colon, is greater than the absorption capacity. There is a disturbance in the small intestine. It results in a decrease in the absorption process or an increase in the secretion process. Diarrhoea can also occur due to motility, inflammatory and immunological disorders.²³ Diarrhoea due to absorption disorders or osmotic diarrhoea can be caused by: a) Consumption of magnesium hydroxide, thereby reducing intestinal absorption function; b) sucrase-isomaltase deficiency; c) The presence of material that is not absorbed causes the intraluminal material in the proximal small intestine to be hypertonic and cause hyperosmolarity. Due to the difference in osmotic pressure between the intestinal lumen and blood, water will flow towards the *hehunum* lumen in the permeable jejunal segment, and water will collect in the intestinal lumen. Na will follow into the lumen, thereby accumulating intraluminal fluid with normal Na levels.²⁴ Diarrhoea due to general malabsorption usually caused by damage to cells (which generally absorb Na and water) can be caused by infection with viruses or germs, such as Salmonella, Shigella or Campylobacter. It can also be caused by idiopathic inflammatory bowel disease, toxins, or certain drugs. A characteristic feature of the disease-causing small bowel malabsorption is villi atrophy.²⁵

Diarrhoea due to secretory disorders or secretory

diarrhoea can occur due to hyperplasia of crypts, luminal secretagogues, and blood-borne secretagogues. Generally, cryptic hyperplasia will cause villi atrophy. In luminal secretagogues, lumen secretion is influenced by bacterial enterotoxins and stimulating chemicals such as laxans, dihydroxyl form bile salts, and long-chain fatty acids. In secretagogin blood-borne, diarrhoea is generally caused by E. Coli or Cholera enterotoxins.²⁶ Diarrhoea due to peristalsis is caused by changes in intestinal motility which will affect absorption. Both increased or decreased motility can cause diarrhoea. Decreased motility can result in bacteria overgrowth, which in turn can cause diarrhoea. Diarrhoea due to hyperperistalsis in children is rare. Watery diarrhoea can be caused due to hypermotility in cases of colon irritability in infants.²⁷

Diarrhoea due to inflammation can occur due to loss of epithelial cells and damage to tight junctions, causing water, electrolytes, mucus and protein to accumulate in the lumen. Usually, diarrhoea due to inflammation is associated with other types of diarrhoea such as osmotic diarrhoea and secretory diarrhoea. Pathogenic enteral bacteria will affect the structure and function of the tight junction, induce secretion of fluids and electrolytes, and activate the inflammatory cascade. The effect of bacterial infection on the tight junction will affect the anatomical arrangement and absorption function and changes in protein composition. Research by Berkes J et al. 2003 shows that the role of enteral pathogenic bacteria in diarrhoea is influenced by changes in the barrier tight junction by toxins or germ products, namely changes in the cellular cytoskeleton and specific tight junctions. The effect will cause hypersecretion of chlorides which will be followed by sodium and water.²⁸ Immunologically associated diarrhoea is associated with hypersensitivity reactions of types I, III and IV. Type I reaction is a reaction between mast cells and IgE and food allergens. Type III reactions are, for example, in gastroenteropathy, whereas type IV reactions are found in celiac disease and protein loss enteropathies. Chemical mediators resulting from the immune response will cause the mucosal surface area to decrease due to tissue damage, stimulating chloride secretion followed by sodium and water.

RESEARCH METHOD

The type of research used in this research is an observational analytic study with a cross-sectional design to see the relationship between feeding patterns and a history of TB or diarrhoea with the incidence of stunting in Sukahayu Village, Sumedang, West Java, April 2019. April 5, 2019. Research site in Sukahayu Village, Sumedang, West Java. This study population were all toddlers aged 2-5 years who experienced stunting in Sukahayu, Sumedang, West Java in April 2019. From previous research, it was found that there were 34 children with stunting in Sukahayu village.

Furthermore, the sampling technique used is total sampling, where the sampling is the same as the existing population. The research instruments used were stationery, data recording sheets, questionnaire sheets, anthropometric tools. Data collection was carried out using questionnaires and anthropometric measurements. Data processing is done with a computerized system through editing, coding, and cleaning. Data analysis was performed using univariate and bivariate analysis procedures to explain or describe the description and relationship between the research variables. The presentation of the research data is then presented descriptively in the form of narration, text, tables and graphics.

RESULT AND DISCUSSION

Table 4: Frequency Distribution of Nutritional Status Based on Height Index by the age of Stunting Toddlers

TB/Age Nutritional status	Frequency	%
Very short	2	5,9
Short	32	94,1
Total	34	100,0

Based on table 4, the nutritional status based on the height index according to the age of stunting of children under five in Sukahayu Village was found that two children were very short (5.9%) and 32 children were short (94.1%).

Table 5: Frequency Distribution of Stunting Toddler Age

Child Age	Frequency	%
25-36 months	17	50,0
37-48 months	8	23,5
49-60 months	9	26,47

Based on table 5, the age frequency distribution for stunting children in Sukahayu Village is highest in the 25-36 months age group as many as 17 children (50.00%). In the 37-48 month age group, there were eight children (23.53%). In the 49-60 month age group, there were nine children (26.47%).

Table 6: Frequency Distribution of Sex in Toddler Stunting

Gender	Frequency	%
Male	17	50,0
Female	17	50,0
Total	34	100,0

Based on table 6, the sex distribution of stunting children in Sukahayu village is the same, where the sexes of boys and girls are 17 children (50.0%) respectively.

Table 10: Relationship between Feeding Patterns and Stunting

Feeding patterns	TB/Age nutritional status				Total		P-Value
	Very short		Short		N	%	
	n	%	n	%			
Good	1	3,6	27	96,4	28	100	0,22
Not good	1	16,7	5	83,3	6	100	
Total	2	5,9	32	94,1	34	100	

Based on table 10, it shows that the statistical test results obtained by the value of $p = 0.22$ ($p > 0.05$), it can be concluded that there is no relationship between feeding patterns and the incidence of stunting in children under five in Sukahayu Village.

Table 11: Relationship between Tuberculosis History and Stunting

TB History	TB/Age nutritional status				Total		P-Value
	Very short		Short		N	%	
	n	%	n	%			
Yes	0	0,0	5	100	5	100	0,55
No	2	6,9	27	93,1	29	100	
Total	2	5,9	32	94,1	34	100	

Based on table 11, showing the statistical test results obtained by the value of $p = 0.55$ ($p > 0.05$), it can be concluded that there is no relationship between TB history and the incidence of stunting in children under five in Sukahayu Village.

Table 7: Distribution of Stunting Toddler Feeding Patterns

Feeding Patterns	Frequency	%
Good	28	82,4
Not good	6	17,6
Total	34	100,0

Based on table 7, the distribution of a good feeding pattern is 28 children (82.35%), more than six children (17.65%).

Table 8: Distribution of TB History of Stunting Toddlers

History of TB	Frequency	%
Ever	5	14,7
Never	29	85,3
Total	34	100,0

Based on table 8, the distribution of TB history found that many children had never experienced TB, namely 29 children (85.3%) and only five children who had experienced TB (14.7%).

Table 9: Frequency Distribution of Stunting Toddler Diarrhea History

History of Diarrhea	Frequency	%
Yes	26	76,5
Not	8	23,5
Total	34	100,0

Based on table 9, the distribution the diarrhoea history in children, many children have had diarrhoea / Yes as many as 26 children (76.47%) and who have never experienced diarrhoea as many as eight children (23.53%).

Table 12: Relationship History of Diarrhea and Stunting Incidence

Diarrhea History	Diarrhea/Age Nutritional status				Total		P-Value
	Very short		Short		N	%	
	n	%	n	%			
Yes	1	3,8	25	96,2	26	100	0,37
No	1	12,5	7	87,5	8	100	
Total	2	5,9	32	94,1	34	100	

Based on table 12, showing the statistical test results obtained by the value of $p = 0.37$ ($p > 0.05$), it can be concluded that there is no relationship between the history of diarrhoea and the incidence of stunting in children under five in Sukahayu village.

After entering the data, the study results showed no relationship between the feeding patterns of stunting children with a p-value of 0.22. It can be seen from the data that shows that 82.4% of the feeding pattern is good, and only 17.6% of the feeding pattern is not good. However, even though the percentage of a good dietary pattern was greater than that of a poor diet, 34 of the sampled children were still shorter than their age (stunting). It may be caused by other factors such as babies born with LBW, inadequate environmental sanitation, infectious diseases in children, anaemia in pregnant women and children. Different results were found in a study conducted by Widyarningsih et al that stated a significant relationship between eating patterns and the incidence of stunting, with a p-value of 0.05 ($p\text{-value} \leq 0.05$).^{29,30} Different results were also found in research conducted by Nabuasa et al. That showed a relationship between diet and the incidence of stunting in children with an OR value or relationship strength of 3.16.³¹

The feeding pattern of toddlers is the most important behaviour that can affect the state of nutrition. However, this is difficult to do, especially in varied diets rarely applied even though eating is generally two times a day. Therefore, even though the overall feeding pattern is good, stunting is still high because the food eaten is not varied. Other inhibiting factors that caused stunting but not related to feeding patterns, history of diarrhoea, and history of TB were not studied in this study. They are: cultural, family economy, low birth weight, malnutrition experienced by pregnant women and children under five, the mother's lack of health knowledge and nutrition before and during pregnancy, adherence to consuming Fe tablets, as well as after pregnant women, still limited health services including ANC services - Ante Natal Care (health services for mothers during pregnancy) Post-Natal Care and quality early learning and lack of access to nutritious food so that there are still many children who are stunted even though the diet for toddlers is good.

Further research indicated no relationship between TB history and the incidence of stunting with a p-value of 0.55 ($p > 0.05$). It can be seen from the data that shows as many as 85.3% have never had TB history, and 14.7% of children under five have TB history. These results do not have a possible relationship because the number of children under five with a history of TB in Sukahayu Village is minimal. Nevertheless, these results are not in line with the research of Maryanto and Anugrah, which states that there is a significant relationship between TB and the incidence of stunting ($p = 0.010$).^{32,33} In theory, TB and stunting are closely related because TB is an infectious disease that will affect the nutritional status of children. The first reaction due to infection is decreased appetite, so that toddlers will refuse to eat what is given. Refusal of food means reduced intake of nutrients in the body. TB with the incidence of stunting is a causal relationship. TB can worsen nutritional status and nutritional status, and malnutrition can make it easier for

someone to catch infectious diseases.

Further research also found no relationship between the history of diarrhoea and the incidence of stunting in children under five in Sukahayu village with a p-value of 0.37 ($p > 0.05$). It can be seen from the data, which shows as many as 76% children under five with diarrhoea are not stunted. Diarrhoea is closely related to malnutrition. Each episode of diarrhoea can result in a lack of ability to absorb food juices, so if the episodes are prolonged, it will impact the growth and health of the child. However, if given adequate nutrition, children who experience diarrhoea will reduce the risk of malnutrition and vice versa. The results of this study are in line with research conducted by Leo et al. Which stated that the incidence of diarrhoea was not a risk factor for the incidence of stunting with p-value 1 ($p\text{ value} > 0.05$).³⁴ Another possible direct cause of stunting is low levels of nutrient intake.

CONCLUSION

Based on the results of research and discussion, it can be concluded that: a) Of 34 stunting respondents, 32 were short (94.1%) and two very short (5.9%); b) From 34 respondents, it was found that the age group of children under five was stunting at most at 25-36 months, namely 17 under five (50%); c) Out of 34 respondents, the sex of children under five was equally stunted between males and females where 50% each; d) In Sukahayu Village, from 34 respondents, it was found that 28 stunting toddlers had a good feeding pattern (82.4%); e) In Sukahayu Village, from 34 respondents, it was found that five children under five with stunting had a history of TB (14.7%); e) In Sukahayu Village, from 34 respondents, it was found that 26 children under five with stunting had a history of diarrhoea (76.5%). Thus, there is no significant relationship between feeding patterns and a history of TB or diarrhoea with the incidence of stunting in stunting under five. Therefore, it is necessary to carry out further research by including various variables that are not included in this study seeing that there are still many factors associated with the incidence of stunting. In addition, it is hoped that the public and health workers, especially *posyandu* cadres, will receive education to find out earlier about the incidence of stunting in toddlers and provide a balanced nutrient intake to improve the health status of children.

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