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ANALYSIS OF DETERMINANTS OF INCREASED STUNTING INCIDENCE IN THE WORK AREA OF THE CEMPAE HEALTH CENTER PAREPARE CITY

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ABSTRACT:

Stunting is a condition of failure to thrive in children under five as a result of chronic malnutrition so that the child is too short for his age. This study aims to analyze what are the determinant factors associated with the increased incidence of stunting in the Work Area of the Cempae Health Center, Parepare City, South Sulawesi. This study uses a cross-sectional study approach. The population of this study were all toddlers aged 24-59 as many as 715 toddlers. Respondents in this study were mothers of toddlers and a sample of 191 toddlers was taken by purposive sampling. Data were analyzed using chi-square and logistic regression. The results of the analysis showed that children under five who experienced stunting were 30.9%. Based on the chi square results, there was a relationship between income (p=0.022), history of infectious disease (p=0.032), history of exclusive breastfeeding (p=0.000), history of immunization status (p=0.000), environmental sanitation (p=0.016) , history of prenatal care (p = 0.001), mother's attitude in giving food (p = 0.032), and there

was no relationship between mother's knowledge about balanced nutrition (p = 0.685) and food intake (p = 0.976) with an increase in the incidence of stunting in the region. Cempae Public Health Center in Parepare City. The results of logistic regression showed that a history of exclusive breastfeeding (p = 0.000), a history of immunization status (p = 0.014) and a history of prenatal care (p = 0.012) were the variables most associated with the increase in the incidence of stunting in the Cempae Health Center Work Area, Parepare City. In conclusion, there is a relationship between income, history of infectious diseases, history of exclusive breastfeeding, history of immunization status, environmental sanitation, history of pregnancy checks, mother's attitude in feeding and there is no relationship between mother's knowledge of balanced nutrition and food intake with increased incidence of stunting in the region. Cempae Public Health Center in Parepare City. The variables most related to the increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City, were the history of exclusive breastfeeding, history of immunization status and history of pregnancy checks. It is hoped that health workers will further improve their nutrition improvement activities or programs in the first 1000 days of life.

INTRODUCTION:

Stunting is a condition of failure to thrive in children under five years old due to chronic malnutrition so that the child is too short for his age. Malnutrition occurs since the baby is in the womb and in the early days after the baby is born, but the stunting condition only appears after the baby is 2 years old (TNP2K, 2018). Stunting in children can occur in the first 1000 days after conception and stunting is associated with many factors, including socioeconomic status, food intake, infection, maternal nutritional status, infectious diseases, micronutrient deficiencies and the environment and children who suffer from stunting will be more susceptible to disease and when adults are at risk for degenerative diseases (Ministry of Health RI, 2018b; WHO, 2018).

The results of basic health research show a decline in the prevalence of stunting from 37.2% in 2010 to 30.8% in 2018 (Ministry of Health RI, 2018a). The results of the research on the nutritional status of children under five in Indonesia (SSGBI) the prevalence of very short and short toddlers in districts/cities was 27.67% in 2019 (BPS, 2019), while the prevalence of stunting in children under five in 2018 in South Sulawesi Province was 35.7%.

Several studies have shown mixed results regarding the factors that cause stunting. Stunting is caused by a lack of macronutrient and micronutrient intake (Akhmad et al., 2016). According to research (Miranti et al., 2020) that a history of infectious disease is a risk factor for stunting, and other studies also suggest that the wealth quintile is a significant determinant of stunting in children (Adhikari et al., 2019), In addition, the results of research conducted by Uwiringiyimana et al (2019) said that if a new child breastfeeds at the age of 1 month, the chance of stunting increases by 20%.

While research from Picauly & Toy (2013) in Kupang NTT and East Sumba NTT which shows that if a child does not have a history of immunization, it will be followed by an increase in the incidence of stunting 1,983 times and the results of research by Khairiyah & Fayasari (2020) also shows that poor environmental sanitation can increase the risk of stunting under five.

Stunting does not only occur if there is a lack of food intake, but there are several other factors such as mothers who have a history of insufficient pregnancy tests, their children will experience stunting (Sumiati et al., 2020) and also the level of mother's knowledge about nutrition is one of the factors that can affect the occurrence of stunting in children under five (Arsyati, 2019). The mother's level of knowledge about nutrition will determine the attitude in giving food to her child, according to the results of the study Septamarini et al (2019)

found that the attitude of the mother's lack of responsive feeding will have an impact on child growth in the long term.

The city of Parepare is a city dubbed as a child-friendly city and one of the areas that has made efforts to prevent and control stunting, but stunting cases are still found and based on the report on the results of nutritional status monitoring (PSG) conducted in Parepare City, data obtained that there is one health center the stunting rate has increased in the last 2 years (2018-2019), namely the Cempae Health Center as many as 150 toddlers (23.3%) in 2018 and then increased in 2019 to 174 children under five (26.7%) and is still experiencing an increase in February 2020 to 217 stunting toddlers (25.9%) (Cempae Community Health Center, 2020) The prevalence has not yet reached the WHO threshold of 20% and is still a public health problem (WHO, 2010).ss

Problems that occur in the Work Area of the Cempae Health Center in Parepare City can be the determining factors for the increase in the incidence of stunting and to find out, it is necessary to conduct research on the analysis of the determinants of the increase in stunting in the Cempae Health Center Work Area, Parepare City, South Sulawesi.e City, South Sulawesi.

METHODS:

This research is an observational analytic study using a cross sectional study approach. This research was conducted in the Working Area of the Cempae Public Health Center, Parepare City, South Sulawesi Province. The population is all toddlers aged 24 to 59 months as many as 715 toddlers while the sample in this study was 191 samples. Respondents in this study were mothers of children under five, sampling technique was done by purposive sampling based on inclusion and exclusion criteria.

Collecting data using questionnaires and field observations as well as food recall sheets 1x24 hours while taking height using the e-PPGBM application (Community Based Nutrition Recording and Reporting). Data processing using the Software Package for Social Science (SPSS) program and 24-hour food recall were calculated using Nutrisurvey 2007 while data analysis using univariate analysis, bivariate analysis with chi square and multivariate analysis was carried out to determine the most dominant variable using multiple logistic regression.

RESULTS:

Univariate Analysis:

Characteristics of Toddlers:

Table 1. Distribution of Characteristics of Toddlers in the Working Area of Puskesmas Cempae Parepare City

Characteristics of Toddlers	Amount (n)	Percentage (%)
Age of Toddler		
24-35 months	91	47,6
36-47 months	52	27,2
48-59 months	48	25,1
gender		
man	99	51,8
woman	92	48,2

Birth Weight		
Low birth weight	14	7,3
Not Low birth weight	177	92,7
Total	191	100

Source: Primary Data 2021

Characteristics of Parents:

Table 2. Distribution of Characteristics of Parents in the Working Area of Puskesmas Cempae Parepare City

Characteristics of Parents	Amount (n)	Percentage (%)
Mother's Married Age		
<18 Years	28	14,7
19-26 Years Old	144	75.4
27-34 Years Old	16	8.4
35-42 Years Old	3	1,6
Mother's Education		
Finished elementary	18	9,4
school	29	15,2
Fiished of Junior School	107	56,0
Graduated high school /	37	19,4
vocational school		
Finished D3/Higher		
Education		
Father's Education		
Never School	1	0,5
Finished elementary	18	9.4
school	28	14.7
End of SMP	117	61,3
Graduated high school /	27	14.1
vocational school		
End D3/PT		
Mom's job		
IRT	150	78,5
honor	6	3,1
Private Employees	11	5,8
Civil Servants/TNI/POLRI	13	6,8
Self employed	11	5,8
Father's job		
fisherman	9	4,7
Private Employees	72	37,7
Civil Servants/TNI/POLRI	16	8,4
Day Labor	25	13,1
Self employed	69	34,1
Total	191	100

Source: Primary Data 2021

Research Variable Frequency Distribution:

Table 3. Distribution of Research Variables in The Region Kerja Puskesmas Cempae Parepare City

Research Variables	Amount (n)	Present (%)
Food Intake		
low	78	40,8
tall	113	59,2
Parental income		
low	65	34,0
tall	126	66,0
History of infectious diseases		
ever	43	22,5
never	148	77,5
History of Exclusive Breastfeeding		
do not	67	35,1
already	124	64,9
Immunization Status History		
Incomplete	17	8,9
complete	174	91,1
Pregnancy Screening History		
Not up to standard	18	9,4
As per standard	173	90,6
Mother's Knowledge		
less	45	23,6
good	146	76,4
Mother's Attitude		
negative	88	46,1
positive	103	53,9
Nutritional Status		
Stunting	59	30,9
Not Stunting	132	69,1

Source: Primary and Secondary Data 2021

Table 3 shows that toddlers who have a low food intake are 40.8% while those who have a high intake are 59.2%. Parents of toddlers who have low incomes are 34.0% while parents of toddlers who have high incomes are 66.0%. Toddlers who have had a history of infectious diseases are 22.5% while toddlers who have never had a history of infectious diseases are 77.5%. Toddlers who have never received exclusive breastfeeding are 35.7% while toddlers who have received exclusive breastfeeding are 64.9%. Toddlers who have a history of incomplete immunization status are 8.9% while toddlers who have a history of complete immunization status are 91.1%.

Respondents who have environmental sanitation that does not meet the requirements are 39.8% while those who meet the requirements are 60.2%. Respondents who have had a pregnancy examination that are not according to standards are 9.4% while those who are according to standards are 90.6%. Respondents who have a low level of knowledge are 23.6% while those who have good knowledge are 76.4%. Respondents who have a negative attitude in terms of feeding are 46.1% while those who have a positive attitude are 53.9%. While toddlers who experience stunting are 30.9% while toddlers who are not stunted are 69.1%.

Bivariate analysis:

Bivariate analysis was used to see the relationship between the independent variables consisting of parental income, history of infectious diseases, history of exclusive breastfeeding, history of immunization status, environmental sanitation, history of pregnancy checks, mother's knowledge of balanced nutrition, mother's attitude in terms of feeding and intake. food with the dependent variable, namely stunting. Data tabulation was carried out with the chi square test, if the p value <0.05 then the decision is Ho is rejected or there is a relationship, while if the p value is> 0.05 then the decision is Ho is accepted or there is no relationship. The results of the bivariate analysis are as follows:

Table 4. Relationship of Food Intake with Increased Stunting Incidence in The Working Area of Cempae Health Center Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Food Intake							
low	24	30,8	54	69,2	78	100	0,976
tall	35	31,0	78	69,0	113	100	

Source: Primary data 2021

Table 4 shows that the food intake variable has a p value = 0.976. Because the value of p> 0.05 so Ho is accepted. This means that there is no relationship between food intake and the increased incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 5. Income Relationship with Increased Stunting Incident in The Work Area of Puskesmas Cempae Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Parental income							
low	27	41,5	38	58,5	65	100	0,02
tall	32	25,4	94	74,6	126	100	2

Source: Primary data 2021

Table 5 shows that the parental income variable has a p value of 0.022. Because the p value < 0.05 so Ho is rejected. This means that there is a relationship between parental income and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 6. Relationship History of Infectious Diseases with Increased Incidence of Stunting in the Work Area of Puskesmas Cempae Parepare City

Independent Variable	Dependent variables		sum	P Value
	Stunting	Not Stunting		

	n	%	n	%	n	%	
History of infectious diseases							
ever	19	44,2	24	55,8	43	100	0,03
never	40	27,0	108	73,0	148	100	2

Source: Primary data 2021

Table 6 shows that the variable history of infectious disease has a p value of 0.032. Because the p value < 0.05 so Ho is rejected. This means that there is a relationship between a history of infectious diseases and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 7. Relationship of History of Exclusive Breastfeeding with Increased Incidence of Stunting in the Work Area of the Cempae Health Center, Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
History of Exclusive Breastfeeding							
do not	42	62,7	25	37,3	67	100	0,00
already	17	13,7	107	86,3	124	100	0

Source: Primary data 2021

Table 7 shows that the history of exclusive breastfeeding has a p value of 0.000. Because the p value < 0.05 so Ho is rejected. This means that there is a relationship between a history of exclusive breastfeeding and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 8. Relationship History of Immunization Status with Increased Stunting Incident in The Working Area of Cempae Health Center Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Immunization Status History							
Incomplete	16	94,1	1	5,9	17	100	0,00
complete	43	24,7	131	75,3	174	100	0

Source: Primary data 2021

Table 8 shows that the variable history of immunization status has a p value of 0.000. Because the p value < 0.05 so Ha is accepted. This means that there is a relationship between the history of immunization status and the increased incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 9. Environmental Sanitation Relationship with Increased Stunting Incident in the Working Area of Puskesmas Cempae Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Environmental Sanitation							
Not fulfilling	31	40,8	45	59,2	76	100	0,016
Qualify	28	24,3	87	75,7	115	100	

Source: Primary data 2021

Table 9 shows that the environmental sanitation variable has a p value of 0.016. Because the p value < 0.05 so Ho is rejected. This means that there is a relationship between environmental sanitation and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 10. Relationship History of Pregnancy Examination with Increased Incidence of Stunting in the Work Area of Puskesmas Cempae Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Pregnancy Screening History							
Not up to standard	12	66,7	6	33,3	18	100	0,00
As per standard	47	27,2	126	72,8	173	100	1

Source: Primary data 2021

Table 10 shows that the Pregnancy Examination History variable has a p value of 0.001. Because the p value < 0.05 so Ho is rejected. This means that there is a relationship between a history of prenatal care and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 11. Relationship of Mother's Knowledge of Balanced Nutrition with Increased Incidence of Stunting in the Work Area of Cempae Health Center, Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Mother's Knowledge							
less	15	33,3	30	66,7	45	100	0,685
good	44	30,1	102	69,9	146	100	

Source: Primary data 2021

Table 11 shows that the knowledge variable regarding balanced nutrition has a p value of 0.685. Because the p value > 0.05 so Ho is accepted. This means that there is no relationship

between mother's knowledge about balanced nutrition and the increased incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Table 12. Relationship of Mother's Attitude in Terms of Feeding with Increased Stunting Incidence in The Working Area of Cempae Health Center Parepare City

Independent Variable	Dependent variables				sum		P Value
	Stunting		Not Stunting				
	n	%	n	%	n	%	
Mother's Attitude							
negative	34	38,6	54	61,4	88	100	0,032
positive	25	24,3	78	75,7	103	100	

Source: Primary data 2021

Table 12 shows that the mother's attitude variable in terms of feeding has a p value of 0.032. Because the p value < 0.05 so Ho is rejected. This means that there is a relationship between the mother's attitude in terms of feeding and the increased incidence of stunting in the working area of the Cempae Health Center, Parepare City.

Multivariate Analysis:

At this stage, multivariate analysis was performed on the most directly related variables (p<0.05), namely the history of exclusive breastfeeding, history of immunization status, history of pregnancy examination. Multiple logistic regression test was carried out in order to determine the most dominant variable, the results of the multiple regression s test can be seen in the following table:

Table 13. Results of Multiple Logistic Regression Test on Exclusive Breastfeeding History Variables, Immunization Status History and Pregnancy Examination History IN the Working Area of Cempae Health Center Parepare City

variable	B	S.E.	forest	Df	itself.	Exp(B)
History of Exclusive Breastfeeding	1.917	.396	23.491	1	.000	6.804
Immunization Status History	2.637	1.076	6.008	1	.014	13.976
Pregnancy Screening History	1.575	.627	6.306	1	.012	4.831
Constant	-10.260	2.438	17.718	1	.000	.000

Source: Primary Data 2021

In table 13 it is known that the results of the multiple logistic regression test show that the variable most related to the increase in the incidence of stunting is exclusive breastfeeding with a sig value (p = 0.000) and for the history of immunization status variable which shows a Sig value (p = 0.014) while the history variable pregnancy examination which showed the value of Sig (p=0.012).

DISCUSSION:

Univariate analysis:

Characteristics of Toddlers:

Based on data on the distribution of characteristics of children under five in the working area of the Cempae Health Center, Parepare City, the toddlers who have the highest age group are at the age of 24-35 months (47.6%) and the lowest are at the age of 48-59 months (25.1%), while the toddlers are male gender is higher (51.8%) than female gender (48.2%). Toddlers who have low birth weight (LBW) are 7.3% while those who do not have low birth weight are 92.7%.

Characteristics of Toddler Parents:

Based on data on the distribution of characteristics of parents of children under five years old, the highest age group for married mothers is 19-26 years old (75.4%) and the lowest is 35-45 years old (1.6%). While the mother's education was the highest, namely high school/vocational high school graduation (56.0%) and elementary school graduation was the lowest mother's education (9.4%), as well as the father's highest education, namely high school/vocational high school (61.3%) the lowest was never in school (0.5%). In addition, the highest employment status of mothers is housewives (78.5%) and the lowest is as honorary (3.1%) while for fathers, the highest category is private employees (37.7%) and the lowest is fishermen. (4.7%).

Bivariate Analysis:

Relationship of food intake with increased stunting incidence in the working area of Puskesmas Cempae Parepare City:

The results showed that there was a relationship between food intake and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City with p value = 0.976 > 0.05. This can happen because some respondents already have good knowledge and are accompanied by a positive attitude in giving food so that they provide food that has macro and micro nutrients.

This research is supported by (Hidayati et al., 2018) that the intake of energy, protein and fat are not variables related to stunting as evidenced by the p value > 0.05. Previous research also supports the results of this study, which found that energy intake (P=0.128), protein intake (P=0.200), phosphorus (p=0.063), calcium (p=0.102) and vitamin A (P=1,000) were absent. significant relationship with the incidence of stunting. This is because the incidence of stunting is an event that occurs over a long period of time, so that current nutrient intake is not one of the causes of stunting (Kurnia et al., 2014; Langi et al., 2019).

The relationship between parental income and the increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City:

The results showed that there was a relationship between parental income and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City. This happens because the income earned is not entirely spent on food needs but there are also other needs. Even though parents have high incomes, if children are not given food that suits their needs, the food provided is not nutritious and diverse it will affect the nutritional status of toddlers, high income does not guarantee good nutritional status for toddlers.

The results of this study are in line with (Marbun et al., 2019) who said there was a relationship between income and the incidence of stunting (p = 0.000) because the level of income was not certain to be allocated for food purposes.

Relationship of infectious disease history with increased stunting incidence **in the working area of Puskesmas Cempae Parepare City:**

Based on the results of the study, it showed that there was a relationship between a history of infectious disease and an increase in the incidence of stunting in the work area of the Cempae Health Center, Parepare City. This is due to the behavior of respondents such as those who provide food that contains less nutrients and are not diverse to children and children are lazy to eat, do not wash their hands before eating, let children consume cold drinks and consume sweet candy so as to stimulate coughing and even toddlers who experience ARI due to exposure to cigarette smoke from his father and inadequate environmental sanitation.

The results of this study are in line with research (Triana & Haniyah, 2020) who stated that there was a significant relationship between the status of infectious diseases and the incidence of stunting in children under five at the Karanglewas Health Center (p = 0.001) this was because infectious diseases could interfere with nutrient absorption so that nutrition was reduced directly, infectious diseases could cause malnutrition while malnutrition could increase the risk infection.

Relationship history of exclusive breastfeeding with increased **stunting events in Parepare city:**

Based on the results of this study, there is a relationship between a history of exclusive breastfeeding and an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City, this happens because children at birth do not get colostrum and are not given exclusive breastfeeding and there are also some children who experience birth weight Low birth weight (LBW), where children born with LBW will affect the child's growth including height, besides that based on the history of the disease experienced by the mother during pregnancy which is seen in the MCH book, it is found that there are mothers who have a history of KEK and anemia so that the nutrients in the womb are not met with adequate nutrition. both that can affect fetal growth and at birth will be at risk of stunting.

This research is in line with Nurhalima (2021) who found that children who did not have a history of exclusive breastfeeding had a 3.1 times (95% CI = 1.5–6.4) risk of stunting compared to children who had been exclusively breastfed.

Relationship of exclusive breastfeeding history with increased stunting incident in the working area of Puskesmas Cempae Parepare City:

The results of the bivariate analysis showed that a history of immunization was associated with an increase in the incidence of stunting, this was due to not giving colostrum and exclusive breastfeeding which caused children not to get immunized naturally so that children easily got sick, mothers forgot their child's immunization schedule and respondents' lack of knowledge about the benefits of basic immunization. This causes respondents to be lazy to bring their children to get immunizations and there are also parents who already know the benefits of immunization but do not allow their babies to be immunized because they do not get support from their husbands.

The results of this study are in line with research conducted by (Mianna & Harianti, 2020) that the variable of immunization status of children under five obtained P value 0.006 (POR: 95% CI: 2.593 = 1.357-4.958) which means that incomplete immunization status has a risk of 2.6 times stunting

Environmental sanitation relationship with increased stunting incident **in the working area of Puskesmas Cempae Parepare City:**

Based on the results of research and observations that have been made, it is found that there is a relationship between environmental sanitation and an increase in the incidence of stunting in the work area of the Cempae Health Center, Parepare City, which is caused by environmental sanitation that does not meet the requirements, this happens because people's behavior in disposing of waste is still not good, there are still people who do not care about the environment because of the behavior of throwing garbage, especially in any place, be it at sea, on vacant land, in addition to throwing garbage in any place, there are also people who burn garbage. This behavior shows that the level of public awareness of the environment is still low.

These results are supported by research (Wiyono et al., 2018) who stated that there was a relationship between sanitation and stunting ($p = 0.017 < 0.05$) because most families did less waste management so that the house was categorized as less healthy.

Relationship of pregnancy examination history with increased stunting incidence **in the work area of Puskesmas Cempae Parepare City:**

Based on the results of the study, it showed that there was a relationship between a history of prenatal care and an increase in the incidence of stunting in the working area of the Cempae Public Health Center, Parepare City ($p = 0.001$) due to lack of knowledge of mothers about the benefits of pregnancy checks, age at marriage and giving birth too young, nutritional problems experienced by mothers during pregnancy. pregnancy and lack of support from family/husband.

The results of this study are supported by research (Mengiste et al., 2020) who said that there was a significant relationship between ANC and the incidence of stunting, mothers who underwent ANC had a 69% lower risk of stunting than those who did not participate in ANC (AOR = 0.31; 95% CI = 0.21-0.45).

The relationship between mother's knowledge about balanced nutrition and the increased incidence of stunting in the working area of the Cempae Health Center, Parepare City:

The results showed that there was no relationship between mother's knowledge about balanced nutrition and the increased incidence of stunting in the working area of the Cempae Health Center, Parepare City (p value = 0.685 > 0.05). This happens because most respondents have a high level of education, respondents with higher education are easier to absorb the information obtained so that they are well knowledgeable about balanced nutrition, good knowledge will determine the behavior of respondents in providing food for their children, especially the right type and amount for child growth and development. remain optimal.

The results of the study are in line with research conducted in the Andalas Public Health Center, Padang Timur District, Padang City, which also obtained the same results, namely there was no significant relationship between the level of mother's knowledge about nutrition and the incidence of stunting ($p = 0.331 > 0.05$). This is influenced by parental factors, such as employment status, income and parental education (Setiawan et al., 2018).

Relationship of maternal attitude in feeding with increased stunting incidence **in the working area of Puskesmas Cempae Parepare City:**

The results showed that there was a relationship between mother's attitude in terms of feeding with an increase in the incidence of stunting in the working area of the Cempae Health Center, Parepare City, this happened because some respondents followed their

children's willingness to provide food according to their wishes and there were also those who had a low economic level so they were not able to afford it. provide or provide healthy food for the family including their children. In addition, there are still respondents who do not understand about providing a nutritious and balanced diet.

The results of the study are supported by according to Titi et all (2020)**,** Feeding attitude played a role in the occurrence of stunting (p = 0.002) because parents still did not realize the importance of responsive feeding and parental knowledge about the recommended feeding schedule was still low.

Multivariate Analysis:

The results of the study using multiple logistic regression showed that the variables most related to the increased incidence of stunting were history of exclusive breastfeeding (p=0.000), history of immunization status (p=0.014) and history of pregnancy check-ups (p=0.012).

This is in line with research (Satriani & Yuniastuti, 2020) that the most risky factor with stunting in the highlands is a history of exclusive breastfeeding (p=0.02). This is because mothers work to help the family's economy and the location of the workplace is far from home so that it becomes an inhibiting factor for mothers to breastfeed.

Also supported by research (Doni et al., 2020) that the history of basic immunization is the most influential factor with the incidence of stunting in children under five (p<0.05). This happens because of incomplete immunization in toddlers which results in weak immunity of toddlers so that they are susceptible to infection. If infection in children is left alone, it can be at risk of becoming stunted.

In addition, the results of this study are supported by research (Kahssay et al., 2020) that antenatal care (ANC) is a determinant of stunting, children born to mothers who do not perform ANC are 2.8 times more likely to be stunted than their peers (p<0.05, AOR = 2.81, 95% (1.46-5.38) This happens because they do not get support from the surrounding environment.

CONCLUSION:

Based on multivariate analysis data, it can be concluded that the variables most related to the increase in the incidence of stunting in the work area of the Cempae Health Center, Parepare City, are history of exclusive breastfeeding, history of immunization status and history of pregnancy checks. It is recommended to health workers to further increase activities or nutrition improvement programs in the first 1000 days of life.

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