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Nutrition-Aware Family Behavior, Feeding And Household-Level Food Security With The Incidence Of Stunting In The Kamaipura Health Center Working Area Sigi Regency

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ABSTRACT
WHO and UNICEF estimate that the world's stunting rate is 22.3% of children under five years old globally in 2022, the prevalence of stunting in Indonesia in 2023 is 21.5% and 27.2% in Central Sulawesi. Sigi Regency has a stunting prevalence of 26.4%, Kamaipura Health Center ranks the first highest stunting in October 2023, namely 66% experiencing stunting. The purpose of this study was to analyze the relationship between nutrition-aware family behavior, complementary feeding and food security and analyze the influence of independent variables on the incidence of stunting. This study used a case control design. The population in this study were toddlers aged 24-59 months, the number of samples was 38 case groups and 38 control groups. Based on the results of bivariate analysis using the chi-square test, namely nutrition-aware family behavior, complementary feeding, and food security <0.05, which shows there is a relationship with the incidence of stunting. The results of multivariate analysis using the logistic regression test are that there are no variables that contribute most to the incidence of stunting. However, based on the results of the OR calculation <1, which means that the three variables are protective factors for the incidence of stunting. There is a significant relationship between nutrition-conscious family behavior, complementary feeding and food security with the incidence of stunting, there is no variable that contributes most to the incidence of stunting because all variables are protective factors.For health workers at Kamipura Health Center to be more active in providing education related to nutrition-conscious family behavior, complementary feeding and food security to mothers of toddlers and further researchers to further examine these three variables and other variables.

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INTRODUCTION

*Stunting (*short toddlers) in Indonesia is a nutritional problem that is still a priority, because the problem has an impact on the quality of human resources (Yuwanti, Mulyaningrum, and Susanti 2021) . *Stunting* is a growth disorder in children resulting from chronic malnutrition,

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but *stunting* only becomes apparent after the baby is 2 years old (Ministry of the Republic of Indonesia, 2019) . *Stunting* is the condition of being shorter than the normal length or height of a child of his age with a *z-score value* based on PB/U or TB/U measurements < -2 SD (Ministry of Health of the Republic of Indonesia, 2020) .

World health data, namely WHO and UNICEF, estimate the existing *stunting figures* in the world, namely 22.3% (148.1 million) of children under five years globally in 2022, this can be said to be a problem because the prevalence of *stunting* exceeds the *stunting standard* of 20%. The problem *of stunting* has a high percentage compared to other problems, namely obesity in the world at 5.6% or 37 million and undernutrition at 6.8% or 45 million (WHO and UNICEF, 2023) .

The 2023 Indonesian Health Survey, the national average estimates the prevalence *of stunting* at 21.5%, of 38 provinces in Indonesia, Central Sulawesi ranks eleventh with a *stunting prevalence* of 27.2%. Meanwhile, Sigi Regency has a *stunting prevalence* of 26.4% and is in eighth place in the regencies that experience *stunting* (Ministry of Health, 2023) . Kamaipura Community Health Center is in first place for highest *stunting* in October 2023, namely 66% of toddlers experiencing *stunting* (Sigi Health Office, 2023) .

The problem of *stunting* can be caused by several factors, namely exclusive breastfeeding, family economics, father's education and work, mother's work and knowledge, accuracy in giving MPASI, social culture, nutritionally conscious family behavior, completeness of toddler immunizations and family food security (Supariasa and Purwaningsih, 2019) . *Stunting* has an impact on children's health both now and in the future (Yuwanti, Mulyaningrum, and Susanti, 2021) .

Interviews conducted with Kamaipura Community Health Center nutrition officers and five mothers of toddlers, it was found that there are several things that can cause stunting , namely the lack of nutritionally aware family behavior which can be seen from the participation of parents who do not come to the posyandu to weigh themselves and measure their height. The child was busy working in the fields, so when the child was given vitamin A, he didn't get it. Many mothers prefer to give their children formula milk rather than exclusive breastfeeding. Lack of attention among mothers in choosing iodized salt for cooking. The provision of MPASI that is not appropriate to the child's age, texture, frequency and lack of variety in the MPASI provided, in addition to the lack of food availability at household level, even though access to food is very easy and affordable, however, they do not utilize the food available in the environment, even in the area where they live. they are agricultural areas.

The results of research by Hamid, Kadir, and Lalu (2023) show that the behavior of nutritionally conscious families is said to be not good based on five indicators, namely regular weight weighing (55.7%), exclusive breastfeeding 54.5%, and providing food. which varies 51.1%, consumption of iodized salt 3.4% and provision of nutritional supplements (vitamin A) 20.5%, which means that the implementation of nutritional awareness in the family has not been carried out perfectly by the entire family so that it still causes health problems, namely toddlers experiencing *stunting.* . In the same study (Apriani *et.al,* 2023) ,

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57% did not behave in nutritionally conscious families as seen based on indicators of nutritionally conscious families, due to low achievement of indicators (exclusive breastfeeding 57.1%, consuming a variety of foods and weighing regularly regularly with a value of 57.6% respectively) families are less than 80% nutritionally aware in accordance with the achievement standards.

Based on the research results of Aprillia, Mawarni, and Agustina, (2020), most of the MPASI administration is still inaccurate, namely 70%, inappropriate MPASI administration includes the time of administration, frequency, texture and type of basic ingredients that are not appropriate for age. The same results by Wandini, Rilyani, and Resti (2020) showed that children who received MPASI did not match the timing of giving MPASI, namely 56%, mothers who gave MPASI to children earlier, namely at the age of 4 months because the mother felt that her child had enough to get MPASI. , and this will have an impact on health.

Research by Saraswati, Gustaman, and Hoeriyah (2021) shows that the food security status of households is 93.3% food insecure, which is related to low family income so that the availability of food in the household decreases. Research by Sihite *et. al, (* 2021) , namely 74.3% of households are said to be food insecure which is caused by various factors, namely concerns about running out of food supplies, not being able to obtain a variety of foods, access to food is still limited and household income is still low. Therefore, researchers are interested in examining the relationship between nutritionally conscious family behavior, providing MPASI and food security at the household level with the incidence of *stunting* in the Kamaipura Health Center working area, Sigi Regency.

METHODS

This research is quantitative research, analytical research with a case control approach, namely research aims to find out whether an exposure factor or risk factor is related to a disease. This research was carried out in June-July 2024 at the Kamaipura Public Health Center working area, Sigi Regency, sampling used a non-probability sampling technique , namely the consecutive sampling method. The population in this study was 406 stunted and non-stunting toddlers. Based on sample calculations using unpaired comparative analytics, the results obtained were 38 samples of stunted toddlers and 38 non-stunting toddlers. Data analysis uses three data analyzes namely univariate, bivariate and multivariate analysis.

RESULTS AND DISCUSSION

This research is to look at the relationship between nutritional awareness of family behavior, providing MPASI and food security at the household level with the incidence of stunting in the Kamaipura Health Center working area, Sigi Regency.

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Univariate Analysis

Table 1 Distribution of characteristics of mothers (age, work and education) and toddlers (gender and age), nutritional awareness of family behavior, provision of MPASI and food security (*f* = 38) [a]

Respondent Characteristics	*Stunting*		Not *Stunting*	
	Frequency *(f)*	Percentage (%)	Frequency *(f)*	Percentage(%)
Mother's Age				
17-25 years old	4	10.5	4	10.5
26-35 years old	26	68.3	26	68.3
36-45 years old	8	21.2	8	21.2
Education				
elementary school	7	18.5	7	18.5
JUNIOR HIGH SCHOOL	14	36.8	11	28.9
SENIOR HIGH SCHOOL	17	44.7	20	52.6
Work				
IRT	38	100	38	100
Toddler Gender				
Man	19	50	19	50
Woman	19	50	19	50
Toddler Age				
24-36 months	17	44.7	17	44.7
37-48 months	15	39.5	15	39.5
49-59 months	6	15.8	6	15.8
Nutrition Conscious Family Behavior				
Good	10	26.3	21	55.3
Not enough	28	73.7	17	44.7
Giving MPASI				
Appropriate	8	21.1	23	60.5
Not exactly	30	78.9	15	39.5
Food security				
Food Security	11	28.9	25	65.8
Food Insecurity	27	71.1	13	34.2

[a] Overall sample total. Source: Primary data year (2024)

Based on table 1, it shows the characteristics of mothers of toddlers and toddlers, namely mothers of toddlers who have the highest age, namely 26-35 years old for the *stunting* and non- *stunting groups* as much as 68.3% with all the jobs of mothers of toddlers as housewives (IRT) (100%) , The last high school education was (44.7%) in the

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stunting group and (44.7%) in the non- stunting *group* (52.6%). Apart from that, the results showed that the gender had the same number of males and females (50%), the most common age being 24-36 months (44.7%). As for children *with stunting,* the family's behavior is that they are aware of malnutrition , namely 73.7%, giving inappropriate MPASI as much as 78.9% and having food security which is food insecure as much as 71.1%. Meanwhile, for toddlers who were not *stunted,* the results showed that 17 toddlers (44.7%) had poor nutritional awareness, 39.5% were given inappropriate MPASI, and 34.2% were food insecure.

Bivariate Analysis

Table 2 The relationship between nutritional awareness of family behavior and the incidence *of stunting* in the Kamaipura Public Health Center working area, Sigi Regency (*f* =38) [a]

Nutrition Conscious Family Behavior [b]	Nutritional status				OR 95% (CI)	p value
	Stunting		Not *Stunting*			
	f [c]	% [d]	*f*	%		
Good	10	26.3	21	55.3	0.289 (0.110-0.758)	0.020 [e]
Not enough	28	73.7	17	44.7		

[a] Overall sample total. [b] Nutrition Conscious Family Behavior. [c] *f* = frequency. [d] *%* = percentage. [e] *Chi-Square* test is significant if p<0.05. Source: Primary data (2024)

The results of table 2 show that the majority of *stunted toddlers* have family behavior that is aware of malnutrition, namely 28 toddlers (73.3%) with *correlation values p-value* <0.05, which means there is a significant relationship between family behavior that is aware of nutrition and the incidence of *stunting* in toddlers. OR calculations have shown that respondents who have nutritionally conscious family behavior have no chance of experiencing *stunting* .

Table 3 Relationship between giving MPASI and the incidence *of stunting* in the Kamaipura Public Health Center working area, Sigi Regency (*f* = 38) [a]

Providing MPASI [b]	Nutritional status				OR 95% (CI)	p value
	Stunting		Not *Stunting*			
	f [c]	% [d]	*f*	%		
Appropriate	8	21.1	23	60.5	0.174 (0.063-0.480)	0.001 [e]
Not exactly	30	78.9	15	39.5		

[a] Overall sample total. [b] Giving MPASI. [c] *f* = frequency. [d] *%* = percentage. [e] *Chi-Square* test is significant if p<0.05. Source: Primary data (2024)

The results of table 3 show that toddlers are *stunted* As many as 30 toddlers (78.9%) received MPASI incorrectly, with the results of bivariate *correlation analysis p-value* (<0.05) showing that there was a significant relationship between giving MPASI and the incidence *of stunting* in toddlers. The OR results show that toddlers who are given MPASI have no chance of experiencing *stunting* .

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Table 4 Relationship between food security and the incidence *of stunting* in the Kamaipura Health Center working area, Sigi Regency (*f* = 38) [a]

Food Security [b]	Nutritional status				OR 95% (CI)	p value
	Stunting		Not *Stunting*			
	f [c]	% [d]	*f*	%		
Food Security	11	28.9	25	65.8	0.212	0.003 [e]
Food Insecurity	27	71.1	13	34.2	(0.080-0.559)	

[a] Overall sample total. [b] Food Security. [c] *f* = frequency. [d] *%* = percentage. [e] *Chi-Square* test is significant if p<0.05. Source: Primary data (2024)

Based on table 4, the results show that there are 27 children *with stunting* who are food insecure (71.1%) with the results of the bivariate *correlations p-value analysis* (<0.05) showing that there is a relationship between food security and the incidence of *stunting* in children under five. . The results of the respondent's OR calculation show that toddlers who have food security have no chance of experiencing *stunting* .

Mutlivariate Analysis

Table 5 Logistic Regression Test of family behavior regarding nutrition awareness, provision of MPASI and food security with *stunting* in the Kamaipura Public Health Center working area, Sigi Regency (*f* = 76) [a]

Variable	*Coefficient*	*P*	*OR ((CI 95%)*
Nutrition Conscious Family Behavior	-1,402	,015	0.246 (0.079-0.763)
Giving MPASI	-1,672	,004	0.188 (0.061-0.581)
Food security	-1,446	,010	0.235 (0.079-0.704)
Constant	1,906	,000	

[a] Overall sample total. Logistic Regression Test. Source: Primary data year (2024)

Table 5 shows the calculated OR value <1, which means that family behavior that is aware of nutrition, providing MPASI and food security is a protective factor against the incidence of *stunting* in the Kamaipura Health Center working area, Sigi Regency.

Discussion

The relationship between nutritionally aware family behavior and the incidence *of stunting* in the Kamaipura Health Center working area, Sigi Regency

Based on research that has been conducted, it is known that *stunted toddlers* in the Kamaipura Health Center working area, Sigi Regency, have less nutritionally aware family behavior compared to non- *stunted* (normal) toddlers who have good nutritionally aware family behavior. After carrying out bivariate analysis, namely using the c *hi-square test* , results were obtained which showed that there was a relationship between nutritionally aware family behavior and the incidence of *stunting* in toddlers. This is due to the results of interviews that have been conducted and filling out research questionnaires with respondents, namely that the majority of toddlers who experience *stunting problems* are caused by the educational level of the toddler's mother, namely High School (SMA) and the

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toddler's mother's job as a housewife. Apart from that, it is influenced by the lack of implementation of the five behavioral indicators of nutritionally aware families, namely not bringing their toddlers to the posyandu to have their weight weighed regularly, giving exclusive breastfeeding which is replaced with formula milk because breast milk does not come out, lack of consuming a variety of foods because didn't have time to prepare it and the toddler refused to be given fish, vegetables and fruit. The consumption of nutritional supplements or vitamin A for toddlers is still lacking because mothers do not take their children to the posyandu when the vitamin A administration is scheduled. Then, during pregnancy, mothers of toddlers sometimes consume blood supplement tablets given from posyandu activities.

This research is in line with the results of research by Novitasari and Besral, (2022) which shows that the incidence *of stunting* can be caused by mothers with low education. This occurs because mothers with low education have less knowledge regarding fulfilling nutrition for their children, in contrast to mothers with more education. students will have a better understanding regarding nutritional awareness behavior in fulfilling children's nutrition and their children's health (Novitasari and Besral, 2022) .

The results of research by Ananda, Aulawi and Syuryadi, (2023) show that there is a significant relationship between the implementation of nutritional awareness in families and the incidence of stunting in toddlers, the behavior of families who are aware of malnutrition, which is related to the lack of implementation of exclusive breastfeeding, regularly weighing themselves, consuming a variety of foods. and providing nutritional supplements (Ananda, Aulawi and Syuryadi, 2023) . Research by Ardianti and Sumarmi, (2023) shows that toddlers do not consume a variety of foods, it is known that this is largely influenced by income factors, nutritional knowledge, and culture so that it becomes an obstacle for toddlers to be able to consume a variety of foods (Ardianti and Sumarmi, 2023) .

The results of research (Putri, Irawan and Mukoro, 2021) show that many children receive incomplete vitamin A supplementation so that this can cause toddlers to experience *stunting.* (Putri, Irawan and Mukoro, 2021) . Apart from that, research by Asnawi, Handayani and Tanjung, (2024) shows that the percentage of toddlers experiencing *stunting* is higher in mothers who do not consume blood supplement tablets during pregnancy due to the side effect of nausea (Asnawi, Handayani and Tanjung, 2024) .

stunted toddlers who have family behavior that is aware of poor nutrition, in this research it was also found that several toddlers have family behavior that is aware of good nutrition but are still included in the stunted nutritional status category . This is because there are still several indicators of nutritionally conscious family behavior that have not been implemented, such as mothers of toddlers not taking their children to posyandu because their children are sick, not consuming a variety of foods because their children don't like to eat green vegetables and fruit and prefer to eat plain food. snack.

Research by Amellia and Wahyani, (2020) states that toddlers with stunted nutritional status are influenced by inadequate food and infectious diseases experienced by toddlers

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and the direct cause of nutritional problems in toddlers is the suitability of food consumption patterns to the child's needs (Amellia and Wahyani, 2020) .

Then, in this research, the results were also found, namely that there were several toddlers who had family behavior that was aware of malnutrition but did not have stunting nutritional status . This incident was influenced by mothers of toddlers who always try to take the time to take their children to the posyandu every month even though they are busy, apart from mothers, several mothers of toddlers try to implement good feeding patterns and reduce their children's consumption of food available in food stalls such as snacks, there are Some mothers of toddlers give breast milk to their children from birth until the age of 3 years and do not replace it with formula milk.

Results that are in line with Fallo, Nur and Ndoen, (2023) found that the majority of mothers who have good feeding patterns provide first breast milk to babies, provide food that is suitable for balanced nutrition, and always use the agricultural products they have for consumption by their families without having to buy them. (Fallo, Nur and Ndoen, 2023) .

The relationship between providing MPASI and the incidence *of stunting* in the Kamaipura Health Center working area, Sigi Regency

The results of the research showed that toddlers who were *stunted* in the Kamaipura Public Health Center working area, Sigi Regency, found that most of the mothers of toddlers gave MPASI incorrectly compared to toddlers who were not *stunted* . Bivariate analysis was carried out using the *chi-square test* to show a relationship between giving MPASI and the incidence *of stunting* in toddlers. The incident was caused by several factors when giving MPASI to toddlers, namely giving MPASI to toddlers that did not match the texture of the age they should be, influenced by knowledge, education, age of the mother and occupation of the toddler's mother. Many mothers of toddlers give MPASI before the age of 6 months (early MPASI) and pay less attention to the texture of MPASI, namely giving soft food such as ready-to-eat sun porridge to children aged 6-9 months, on the other hand, when toddlers are aged 9-12, mothers of toddlers have started giving family food to the toddler.

The results of research from Aprillia, Mawarni and Agustina, (2020) stated that inappropriate provision of MPASI can be influenced by age factors, mother's education, ownership of KIA books and history of exclusive breastfeeding, then early provision of MPASI is mostly given to toddlers who are less than 6 months old. causes various health problems such as diarrhea, constipation and intestinal infections (Aprillia, Mawarni and Agustina, 2020) . The same research was also conducted by Rosita, (2021) stating that a high level of education will influence knowledge regarding children's nutritional needs. This shows that mother's education regarding children's needs influences mother's behavior in providing food for her child, and children are not given appropriate MPASI . with age, they will easily get diarrhea and are at risk of dehydration, if this happens continuously it will have an impact on the child's growth pattern (Rosita, 2021) .

When giving MPASI, mothers of toddlers pay less attention to the amount or portion of MPASI given to their children, mothers of toddlers prefer to give their children MPASI that is less than their age needs. Then the frequency of giving more often follows the desire for

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hunger of the child. There are some *stunted mothers of toddlers* who give their children MPASI with a frequency of giving 1-2 times when the child is 9-12 months old, the reason is because the child does not want to eat before there is a feeling of hunger or before the child is fussy. The child has difficulty eating and only likes to eat snacks that do not contain the nutrients needed by the child's body, namely snacks. Mothers of toddlers do not provide or provide a variety of MPASI according to recommendations, this is influenced by being too complicated in processing various types of ingredients that contain good nutrition for children's growth and development, therefore education and knowledge really determine toddlers' ability to consume good MPASI.

Research from Nurtaati, (2019) shows that the better the mother's behavior in providing MPASI, the better the nutritional status of toddlers. The lack of giving MPASI portions of MPASI means that children do not get optimal nutritional intake so that children have many nutritional problems. The MPASI given is also less diverse, given in stages from soft, mushy form to getting used to eating family food (Nurtaati, 2019) .

Apart from finding stunted toddlers who are given MPASI incorrectly, there are also several toddlers who have received proper MPASI but are still in the nutritional status of stunting , this is because toddlers often refuse the food they are given if they are not in the mood and their children no longer want to be given it. Breast milk if you have been given MPASI at the age of six months because the toddler prefers to drink formula milk. Then there are other factors that were not found in the research that were obtained by researchers during the research, namely toddlers often have worms, fever, coughing and environmental factors around the place where they live which are not clean and it is still difficult to find clean water for daily use, apart from that there are also several toddlers who do not yet have a permanent bathroom due to limited costs to build one.

This research is the same as research conducted by (Lukito and Setyaningsih, (2023) who stated that there is no connection between giving MPASI and stunting, there are other factors that cause it, namely LBW, low nutritional intake, father's last education and family income level and the occurrence of several diseases such as infection (Lukito and Setyaningsih, 2023) .

Then, in the results of this research, it was also found that toddlers were not *stunted* but were given MPASI incorrectly, this was because mothers of toddlers always gave food that their children liked without forcing their children to eat various or varied foods, gave MPASI early to their children and gave feed their children when their children want to eat. Apart from that, some toddlers only like to eat one food menu and are given it every day which contains lots of protein such as meat, fish, eggs and vegetables.

A study by Dewi and Mu'minah, (2020) shows that there is no relationship between the incidence of stunting and inappropriate provision of MPASI because some mothers of toddlers give MPASI according to age and vice versa, many mothers of toddlers give their children MPASI early, without paying attention to the frequency of giving, the amount of food and How to make it, the most important thing for mothers of toddlers is that their children want to eat food that their children like, so that mothers of toddlers don't have to

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worry too much about choosing food ingredients for their children (Dewi and Mu'minah, 2020) .

The relationship between food security and the incidence *of stunting* in the Kamaipura Health Center working area, Sigi Regency

The results of the research show that the most food security is in the food insecure category. Then, after carrying out bivariate analysis using the *chi-square test* , the results showed that there was a relationship between food security and the incidence of stunting in toddlers in the Kamaipura Health Center working area, Sigi Regency. Based on interviews conducted with food insecure families, stunting toddlers are influenced by mothers of toddlers who often feel worried if food is running out and don't have the money to buy it again, never provide a lot of food stock at home because there are so many needs that must be prioritized, so mothers toddlers cannot provide balanced nutritious food.

This research is supported by Verawati, Afrinis and Yanto, (2021) who stated that the cause of food security in food insecure families with stunted nutritional status is that one of them is influenced by the availability of household food. This will affect the level of consumption and nutritional status, especially for toddlers. is an age group vulnerable to nutritional problems, one of which is stunting (Verawati, Afrinis and Yanto, 2021) .

Apart from finding stunted toddlers who have food security who are food insecure, in this research it was also found that stunted toddlers who have food security are food insecure, this is because most families already have access to sufficient food, but families pay little attention to the quality and quantity of food. so it will cause deficiencies in vitamins and minerals and there is no food that is rich enough in protein.

This research is supported by research by Sihite et al ., (2021) that food security owned by families in the food security category is influenced by access to providing household food, supported by toddlers' consumption of both energy and protein, low levels affect the growth and development of toddlers and their term. length causes failure to thrive problems such as stunting (Sihite et al ., 2021) .

Then it was also found that toddlers did not experience stunting but had food security and were food insecure, this is because mothers of toddlers still have concerns about not being able to meet their children's needs, especially in terms of food and family members, and mothers of toddlers have not been able to prepare food that is food safe to use. stock food at home, but this does not affect children under five experiencing health problems such as *stunting* .

Research conducted by Qatrunnada, Farathurrahman and Mas, (2023) shows that there is no significant effect of food security on *stunting* , but families who are food insecure are more worried about the adequacy of food supplies and the inability to provide balanced nutritious food for children and all family members. and is influenced by the family's income (Qatrunnada, Farathurrahman and Mas, 2023) .

The variable that contributes most to the incidence *of stunting*

The results of multivariate analysis using logistic regression tests showed that nutritional awareness of family behavior, provision of MPASI and food security were

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protective factors against the incidence of *stunting* in the Kamaipura Health Center working area, Sigi Regency. This is because in an effort to create good nutritionally aware family behavior, some respondents have implemented various indicators determining nutritionally conscious family behavior, namely using iodized salt every time they cook, weighing their children regularly, several mothers of toddlers giving exclusive breast milk to their children. from the first time he was born until his child was 2 years old without giving him formula milk because he was constrained by the cost of buying it.

Some mothers of toddlers, both in the case group and the control group, always try to give MPASI to their toddlers when they are six months old and make their own MPASI for their children, because they have received several counseling and education regarding the correct and appropriate way to give MPASI to their children starting from age , appropriate frequency, portions and texture. Apart from that, mothers of toddlers often use plants in their yard to mix in their children's MPASI, such as pumpkin, moringa leaves, free-range chicken eggs and spinach. Snacks are also routinely given to the toddler, such as bananas, watermelon and papaya, apart from that, the mother also occasionally gives her children biscuits and green bean porridge. Mothers of toddlers always try to provide food every day either for their children or family members at home and never reduce their children's food portions. So that from these things the toddler can avoid health problems, namely stunting .

Research from Siringoringo et al. , 2020) stated that nutritionally conscious family behavior is said to be a protective factor against stunting because some mothers of toddlers already know and implement nutritionally conscious family behavior. Mothers have received information related to nutrition from various health service facilities such as posyandu and community health centers. Most of the feeding carried out by mothers of toddlers is appropriate, because it is known that mothers of toddlers work as housewives so that the time they have can be maximized for caring for children, and have implemented good methods of providing MPASI according to the knowledge they have (Siringoringo et al. , 2020) .

Firna and Setiarini, (2023) stated that food security is not a risk factor for *stunting* , but a protective factor, because the way to obtain food is very abundant because it is in an agricultural area so that more people can use the results from agriculture (Firna and Setiarini, 2023) .

CONCLUSION

The conclusion of this research is that the characteristics of the respondents, mothers of toddlers related to age, are mostly aged 26-35 years with the mother's job as a housewife, the highest level of education is high school. The number of males and females is the same and the maximum age is 24-36 months. Aware family behavior is more or less common in the *stunted toddler group* , 73.7% and in the non- *stunted toddler group* , 55.3%. Inappropriate complementary feeding was more common in the *stunted toddler group* at 78.9% and in the non- *stunted group* at 60.5%. Food insecurity is greater in the *stunted toddler group* at 71.1% and in the non- *stunted toddler group* at 65.8%. There is a

relationship between family behavior that is aware of nutrition, providing MPASI and food security with the incidence of *stunting* among toddlers in the Kamaipura Health Center working area, Sigi Regency. It can be seen that there is no variable that contributes most to the incidence *of stunting* in the Kamaipura Health Center working area, Sigi Regency. However, based on the logistic regression test, the OR value is <1, which means that the family behavior variables are nutritional awareness, provision of MPASI and food security are protective factors against the incidence of *stunting* in toddlers.

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