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FACTORS RELATED TO THE INCIDENCE OF STUNTING IN TODDLERS

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ABSTRACT

Stunting is a linear growth failure in children due to poor nutrition for a long time. The purpose of this study was to determine the factors of maternal knowledge, nutritional status and family history of stunting related to the incidence of stunting in toddlers in the working area of the Conggeang Health Center, Conggeang District, Sumedang Regency. This research was conducted in the working area of the Conggeang Health Center using a quantitative method with a case control approach in determining the sample using a simple random sampling technique. Data analysis using Chi-Square to prove whether there is a relationship between knowledge, nutritional status and a history of stunting in the family with the incidence of stunting and Odds Ratio to determine the size of the risk of stunting. The number of research samples was 50 respondents in the case group and 50 respondents in the control group. The results of the analysis showed that there was a relationship between knowledge p-value 0,003 OR 1,833 (95% CI 1,221-2,752), nutritional status 0,000, family history of stunting 0,01 OR 2,471 (95% CI 1,906-3,202) and the incidence of stunting. The conclusion is that there is a relationship between knowledge, nutritional status and family history of stunting in the incidence of stunting in toddlers in the working area of the Conggeang Health Center, Conggeang District, Sumedang Regency in 2022. Suggestions in this study are expected to be used as a source of information about the factors that cause stunting in mothers of toddlers, and always pay attention to a balanced diet and regularly take children to the integrated services post.

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1. INTRODUCTION

Stunting is a state of height index according to age below minus two standard deviations based on WHO standards. According to the World Health Organization (WHO), Stunting is a developmental disorder in children caused by poor nutrition, recurrent infections, and inadequate psycho-social simulation. If a child has a height of more than -2 standard deviations of the median child growth that has been set by WHO, it is said to be stunted. In Indonesia based on research conducted by Indriani, Dewi, Murti & Qadrijati (2018), that factors related to stunting include maternal height, maternal height, toddler height at birth, the number of family members and the influence of integrated services post.

The high prevalence of stunting is caused by various risk factors including a habitual history of pregnant women, birth weight, infectious diseases, parental education, exclusive breastfeeding and early complementary food. In addition, abstinence from eating certain foods is also included in it. This can be an

obstacle in improving food (parenting) and nutrition for family members with nutritious food (Ministry of Health RI, 2018). Data on the prevalence of stunting toddlers collected by the World Health Organization (WHO), Indonesia is included in the third country with the highest prevalence in the Southeast Asian region. The average prevalence of stunting toddlers in Indonesia in 2005-2017 was 36.4%. According to the latest publication from WHO in 2018, globally in 2016 as many as 22.9% or around 154.8 million children under five in the world suffered from stunting.

In West Java Province in 2018, toddlers who experienced an increase in the stunting rate were very short by 11.70% and the short ones by 19.40% and data in 2017 toddlers who experienced very short stunting by 8.40% and short ones by 20.80% (West, 2018).

In Sumedang Region, it was recorded that in 2021 the stunting rate increased by 3.28% from 2019, which was around 8.7%, there were 9,044 or 12.5% of children spread across 26 sub-districts throughout the district and Sumedang experienced stunting. (Sumedang, 2020). Based on data from the Conggeang Health Center, the results of the Toddler Weighing Month (BPB) in toddlers 0-59 months in February 2022 the number of toddlers according to nutritional status according to BB / U starts from very less body weight there is 1.4%, body weight is less there is 5.4%, the risk of weight is more 8.1%. According to the nutritional status of the first very short TB amounted to 2.4%, short 3.2%. And according to the nutritional status of TB / BB, malnutrition amounts to 2.7%. The number of toddlers aged 0-59 months in the Conggeang Health Center Work area is 1775 toddlers and of them 98 toddlers who are stunted. This is the result of interviews of puskesmas nutrition officers, on average stunting occurs due to factors of knowledge, nutritional status and history of stunting (Puskesmas Conggeang, 2022).

2. METHOD

This research uses a quantitative approach with the research design design used is case control. The design of case control research is that the study begins with the identification of patients with certain effects or diseases (referred to as cases) and groups without effects (called controls), then retrospectively traced risk factors that can explain why cases are affected, while control is not.

3. RESULTS AND DISCUSSION

3.1. Results

a. Uni-variate analysis

Table 1
Frequency Distribution of Respondents Based on Stunting Knowledge in Toddlers in the Conggeang Health Center Area in 2022

Category	Frequency (f)	Percentage (%)
Good	45	45%
Enough	55	55%
Less	0	0
Total	**100**	**100%**

Table 1 shows that out of a total of 100 respondents as many as 55 people (55%) have a sufficient level of knowledge.

Table 2
Frequency Distribution of Respondents Based on Nutritional Status in Toddlers in the Conggeang Health Center Area in 2022

Category	Frequency(f)	Percentage (%)
More Nutrition	31	31%
Good Nutrition	24	24%
Malnutrition	37	37%

Poor Nutrition	8	8%
Total	**100**	**100%**

Table 2 shows that out of a total of 100 toddlers studied, 37 people (37%) had malnutrition categories.

Table 3
Frequency Distribution of Respondents Based on Family History of Stunting in Toddlers in the Conggeang Health Center Area in 2022

Category	Frequency	Percentage (%)
Yes	16	16%
Not	84	84%
Total	**100**	**100%**

Table 3 shows that out of a total of 100 toddlers as many as 84 toddlers (84%) categories have no history of stunting in the family.

Table 4
Frequency Distribution of Respondents Based on Stunting Incidence in Toddlers in the Conggeang Health Center Work Area in 2022

Category	Frequency	Percentage (%)
Stunting	50	50%
Usual	50	50%
Total	**100**	**100%**

Table 4 shows that out of a total of 100 toddlers as many as 50 toddlers (50%) are stunted and as many as 50 toddlers (50%) are not stunted.

b. Bivariate analysis

Table 5
Cross Tabulation
The Relationship between Knowledge and stunting events in toddlers in the working area of the Conggeang Health Center, Conggeang District, Sumedang Regency

Knowledge	Stunting Events				Sum		PR CI 95%	P-Value
	Stunting		No Stunting					
	f	%	f	%	f	%		
Good	15	30	30	60	45	45	1.833 (1.221-2.752)	0,003
Enough	35	70	20	40	55	55		
Less	0	0	0	0	0	0		
Total	**50**	**100**	**50**	**100**	**100**	**100**		

Based on table 5 about the relationship of knowledge with the incidence of stunting in toddlers in the keja area of the Conggeang Health Center, Conggeang District, Sumedang Regency, out of a total of 45 respondents who have good knowledge, 15 people (30%) of them have stunting events, while 30 people (60%) are not stunted. Meanwhile, of the total 55 respondents who have sufficient knowledge, 35 people (70%) of them have stunting events, while 20 people (40%) are not stunted.

Table 6
Cross Tabulation
Relationship of Nutritional Status with Stunting Incidence in Toddlers in the Working Area of the Conggeang Health Center, Conggeang District, Sumedang Regency

Nutritional Status	**Stunting Events**				**Sum**		**PR CI 95%**	**P-Value**
	Stunting		No Stunting					
	f	%	f	%	f	%		
More Nutrition	0	0	12	24	12	12		
Good Nutrition	0	0	38	76	38	38		
Malnutrition	10	20	0	0	10	10		0,000
Poor Nutrition	40	80	0	0	40	40		
Total	**50**	**100**	**50**	**100**	**100**	**100**		

Based on table 6 on the relationship between nutritional status and the incidence of stunting in toddlers in the keja area of the Conggeang Health Center, Conggeang District, Sumedang Regency, out of a total of 50 toddlers who are not stunted, there are more than 12 nutritional categories (24%) and 38 good nutrition categories (76%). Meanwhile, of the total 50 stunted toddlers, 10 people (20%) and 40 people (80%) are malnourished.

Table 7
Cross Tabulation
The Relationship Between The History Of Stunting In The Family With The Judiciary Stunting in Toddlers in the Work Area of the Conggeang Health Center, Conggeang District, Sumedang Regency

Family History of Stunting	**Stunting Events**				**Sum**		**PR CI 95%**	**P-Value**
	Stunting		No Stunting					
	f	%	f	%	f	%		
Yes	16	32	0	0	16	16		
Not	34	68	50	100	84	84	2.471 (1.906-3.202)	0,01
Total	**50**	**100**	**50**	**100**	**100**	**100**		

Based on table 7 on the relationship between the history of stunting in the family with the incidence of stunting in toddlers in the keja area of the Conggeang Health Center, Conggeang District, Sumedang Regency, out of a total of 16 toddlers who have a history of stunting in the family, 16 people (32%) of them have stunting events, while 0 people (0%) are not stunted. Meanwhile, of the total 84 toddlers who have no history of stunting in the family, 34 people (68%) of them have stunting events, while 50 people (100%) are not stunted.

3.2. Discussion

Based on research, it can be known that those who have sufficient knowledge are as many as 55 people (55%). Based on the theory knowledge is the result of knowing and this happens after a person has made a sense of a certain object. The sensing that has gone through the post-human senses , that is, the senses of sight, hearing, smell, taste and groping. Most of human knowledge is obtained through the eyes and ears (Notoatmodjo, 2012). This is in line with the title of the study The relationship between family characteristics and stunting in new children of Semarang bedrock conducted by Ayuningtiasdi (2018) SDN Gedanganak 01, SDN Gedanganak 02, SDN Gedanganak 03 Kecamatan ungaran Timur and SDN Candirejo 01, and SDN Candirejo 02 Kecamatan Ungaran Barat, Semarang Regency to mothers of grade 1 students showed that from 63 samples obtained as many as 28 mothers (44.4%) had sufficient knowledge levels, 26 mothers (41.3%) had a good level of knowledge, and of which 9 mothers (14.3%) had a lack of knowledge.

Researchers assume that mothers' knowledge about stunting in the work area of the Conggeang Health Center is more likely to be influenced by several factors, namely age and education. This proves that the majority of respondents who have stunting toddlers or normal toddlers simply understand the information from stunting counseling carried out by the Health department, even some respondents there are those who follow and understand the counseling but it is not applied in daily life.

Based on research, it is known that the nutritional status of the nutritional category is good as many as 58 people (58%). According to the theory of Arisman (2010) said that nutritional status is the state of the body which is a result of food consumption and the use of nutrients with 3 classifications, namely nutritional status is good less, bad.

This research is the same as the previous research conducted by Oktavianis in 2016 at the Lubuk Kilangan Health Center, the results were obtained by toddlers who experienced malnutrition status as many as 45 toddlers (51.1%) and those who had good nutritional status as many as 43 toddlers (48.9%) in the work area of the Lubuk Kilangan Health Center, Padang City.

According to the assumptions of researchers, nutritional status is the state of the body which is a result of the consumption of food and nutrients consumed by a person, good nutritional status occurs due to the fulfillment of the child's nutritional needs indicated by the child's weight and height corresponding to age with rapid growth. Meeting the needs of adequate energy intake is very important for the fulfillment of nutrition in children.

c. An Overview of The History of Stunting in the Family in Toddlers in the Work Area of the Conggeang Health Center, Conggeang District, Sumedang Regency

Based on research, it is known that there are 84 people who do not have a history of stunting in the family (84%). Based on the theory of maternal height is a genetic factor of the mother related to the physical growth of the child. The mother's posture also reflects the mother's height and the initial environment which will contribute to the child's height as an independent factor. However, there are still many environmental factors that affect children's height (Oktarina & Sudiarti, 2014).

In line with previous research conducted in urban areas, it proves that parental height is a factor that has an influence on the occurrence of stunting (Nasikhah & Margawati, 2012).

So researchers assume that toddlers who have a history of stunting in the family are influenced by the height of parents who pass on to their children. However, what I have researched is that as many as 16 toddlers (16%) have a history of stunting in the family which affects the incidence of stunting. Because of gene factors, mother's height, father's height, and environmental factors. However, there are still many environmental factors that affect a child's height.

Based on research, it is known that the incidence of stunting in toddlers in the stunting category is 50 people (50%), and the non-stunting category is 50 people (50%). Stunting describes a chronic state of malnutrition during the period of growth and development since childhood. This situation was presented with a z-score value of height by age (TB/U) less than -2 standard deviation (Riskesdas) based on growth standards according to WHO (Headey et al, 2018).

This research is in line with Dwijayanti's research (2020) where Stunting is the result of malnutrition which has a long-term impact on growth and subsequent development, such as mental decline, susceptibility to non-communicable diseases, and the risk of giving birth to babies with low birth weight.

Researchers assume that the incidence of stunting in the work area of the Conggeang Health Center occurs because most of the knowledge of mothers in this region is sufficient, the average nutritional status is good nutrition, and the average family history of stunting has no history of stunting in the family.

The results of statistical tests using the chi-square method with a significant level of 5% (0.05) found that the P-Value value of $0.003 < 0.05$ so that H_o was rejected, it was proven that there was a significant relationship between maternal knowledge and the incidence of stunting in toddlers in the work area of the Conggeang Health Center, Conggeang District, Sumedang Regency.

According to Notoatmodjo (2018) knowledge is the result of knowing and occurs after people have sensed certain objects. Sensing occurs through the five human senses, namely smell, sight, hearing and groping. Knowledge itself is usually obtained from other information such as radio, TV, internet, newspapers, magazines, counseling etc. The level of education affects a person in receiving information.

This is in line with the research of Marta Mai Resti (2019) said that there is no relationship between maternal knowledge and the incidence of stunting in toddlers, it can be seen from the statistical test results obtained value p = 0.775 (p>0.05) means that there is no meaningful relationship between maternal knowledge and the incidence of stunting in toddlers.

Researchers assume that the higher the mother's knowledge about stunting, the higher it can also prevent stunting in toddlers. Parents' knowledge of nutrition helps to improve nutritional status in children to achieve growth maturity. Therefore, not all children can grow and develop according to their age, there are children who experience obstacles and abnormalities.

The results of statistical tests using the chi-square method with a significant level of 5% (0.05) found that the P-Value value of 0.01 < 0.05 so that H_o was rejected, it was proven that there was a significant relationship between nutritional status and stunting in toddlers in the work area of the Conggeang Health Center, Conggeang District, Sumedang Regency.

Based on the fact that undernourished toddlers in the golden age are irreversible (cannot recover) and malnutrition in toddlers can affect the child's brain development. Therefore, toddlers with poor nutritional status have weak immune system so that they are susceptible to disease (Sholikah, Rustiana & Yuniastuti, 2017).

The results of this study are in line with Setiawan et al., (2018) who stated that there is a relationship between nutritional status and the incidence of stunting. The incidence of stunting is 13.37 times greater in toddlers who have poor nutritional status compared to toddlers who have good nutritional status.

Researchers assume that there is a relationship between nutritional status and stunting events in the work area of the Conggeang Health Center in 2022. For this reason, it is expected for mothers of toddlers to pay attention to consumption patterns, especially during pregnancy and breastfeeding and give the baby only breast milk for 6 months to prevent malnutrition so that the risk of stunting can be avoided.

The results of statistical tests using the chi-square method with a significant level of 5% (0.05) found that the P-Value value of 0.01 < 0.05 so that H_o was rejected, it was proven that there was a significant relationship between the history of stunting in the family and the incidence of stunting in toddlers in the work area of the Conggeang Health Center, Conggeang District, Sumedang Regency.

According to Wiyogowati (2012) genetic factors are one or both parents who are short due to pathological conditions (such as growth hormone deficiency) have genes in chromosomes that carry short traits so as to increase the chances of children inheriting these genes and growing into stunting.

This is in line with Kisye's research (2017), with the title of the relationship of genetic factors with stunting in North Tombatu District, Southeast Minahasa Regency, stating that the results of data processing using chi-square obtained a p value = 0.000 (α = <0.05).

Researchers assume that the average parent whose height is short will have an impact on the growth of a short toddler's height as well and have a greater chance of stunting. The mother's height will affect the height of a child. If the mother has a height that is not ideal, then the child will potentially have a height that is not ideal. Height is a genetic expression or inherited factor in children, and is related to the occurrence of stunting.

4. CONCLUSION

Based on the results of research that has been carried out regarding factors related to the incidence of stunting in toddlers in the work area of the Conggeang Health Center, Conggeang District, Sumedang Regency in 2022, the results were obtained:

1. Out of a total of 100 toddler mothers, 55 mothers of toddlers (55%) of them have sufficient knowledge.
2. Of the total 100 toddlers, 40 toddlers (58%) of them have poor nutritional status.
3. Out of a total of 100 toddlers, 84 toddlers (40%) of them have no history of stunting in the family.
4. Of the total 100 toddlers, 50 toddlers (50%) of them are stunted and 50 toddlers (50%) of them are not stunted.
5. There is a relationship between maternal knowledge and the incidence of stunting P-Value 0,003.
6. There is a relationship between nutritional status and the incidence of stunting P-Value 0,000.
7. There is a relationship between the history of stunting in the family and the incidence of stunting P-Value 0,01.

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