

Correlation Of Nutritional Status In Toddlers With The Stunting Incident At The Panyabungan Jae Puskesmas, Panyabungan City District Mandailing Regency Year 2022

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ABSTRACT

Stunting is one of the problems that hinders human development globally. Stunting is a picture of nutritional status that is chronic and is the impact of long-lasting conditions such as economic status, poor parenting and often suffer from recurring diseases. The prevalence of stunting in Mandailing Natal Regency in 2020 was 42.13%, while at the Panyabungan Jae Health Center it was 3.4%. The purpose of this study was to analyze the relationship between nutritional status and the incidence of stunting in toddlers in the Panyabungan Jae Health Center, Mandailing Natal Health Center. This research is an analytic survey with a cross sectional approach. The study population was 82 mothers who had toddlers and samples were taken using the Random Sampling technique using the Slovin formula so that a sample of 45 toddlers was obtained. The research instrument used primary data (questionnaire) consisting of 20 questions. The independent variable in this study is nutritional status which includes education level, economic status, maternal age and parity. And the dependent variable in this study is the incidence of stunting. Collecting data using a nutrition report book, processing data by editing, coding, tabulating, then tested with the Chi-Squer test. The results of the study, most of the children under five as many as 20 people (44.4%) of respondents had adequate nutritional status. And all respondents experienced stunting. The results of the Chi-Square test obtained p-value $0.025 < 0.05$ so that H_0 is rejected and H_a is accepted. In this study, there was a relationship between the nutritional status of children under five and the incidence of stunting in the Panyabungan Jae Health Center Work Area, Panyabungan District, Mandailing Natal Regency. It is hoped that the cooperation of health workers, cadres and parents to fulfill balanced nutrition for toddlers to avoid stunting.

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1. Introduction

Under five years old (toddlers) are children aged 0-59 months, at this time marked by a very rapid growth and development process and accompanied by changes that require more nutrients in high quality. However, toddlers are a group that is vulnerable to nutrition and easily suffer from nutritional disorders due to lack of the food they need. Food consumption plays an important role in the physical growth and intelligence of children so that food consumption has a major influence on the nutritional status of children to achieve physical growth and intelligence of children (Ariani, 2019).

Short toddlers (stunting) are toddlers with nutritional status based on length or height according to age when compared to the World Health Organization (WHO) standard, the Z-score

value is less than -2SD and is categorized as very short if the Z-score is less than -3SD (Ministry of Health, 2020). Stunting can increase a child's risk of death, affect motor development, decrease school performance, increase the risk of malnutrition and infectious diseases and reduce productivity in childhood. Stunting in children under five is one of the inhibiting factors for human development.

Stunting is one of the health problems that Indonesia is still facing. The World Health Organization (WHO) once placed Indonesia as the third country with the highest stunting prevalence rate in Asia in 2019 (Kemenkes RI, 2019). The results of the Study on the Nutritional Status of Indonesian Toddlers (SSGBI) in 2019 showed that there had been a decline in the prevalence of stunting from 30.8% in 2018 to 27.67% in 2019 (Kemenkes RI, 2020).

Although declining, this figure is still considered high, because the World Health Organization (WHO) tolerance rate for stunting is 20%. This condition is exacerbated by the COVID-19 pandemic, which causes many layoffs (PHK) so that unemployment increases, and as a result people's purchasing power, especially food, decreases. Indirectly it has an impact on increasing the incidence of stunting (Ichsan, 2021).

The United Nations International Children's Emergency Fund (UNICEF) estimates that the number of children with stunting under the age of five is 149.2 million in 2020, down 26.7% compared to 2000 which reached 203.6 million. However, progress in dealing with stunting is uneven across the region. The number of children under five with stunting in West and Central Africa still increased by 28.5% from 22.8 million in 2000 to 29.3 million in 2020. East and South Africa experienced the same thing. The number of toddlers experiencing stunting rose 1.4% from 27.6 million in 2000 to 28 million in 2020.

Meanwhile, the decrease in the number of toddlers with stunting came from East Asia and the Pacific. This region recorded as many as 20.7 million children under five with stunting last year, a decrease of 49.75% from 2000 which reached 41.2 million. Meanwhile, the number of children under five with stunting in Eastern Europe and Central Asia decreased by 46.8% from 4.7 million in 2000 to 2.5 million in 2020.

Then, the number of children under five with stunting in South Asia decreased by 38% from 86.8 million in 2000 to 53.8 million in 2020. Meanwhile, the number of children under five with stunting in the Middle East and North Africa fell by 14.4% from 9 million in 2000 to 7.7 million last year. In Indonesia, the problem of stunting has decreased, namely in 2020 there were 10.9% of children under five who were stunted and in 2021 there were 9.5%. Where East Nusa Tenggara is the province with the most stunting at 22.6% and Jambi the least at 3.0%.

Meanwhile, in North Sumatra, the Stunting Prevalence in 2020 reached 6.8% and in 2021 it only decreased 1% from the previous year to 6.7%. Mandailing Natal Regency was designated as a stunting locus with a prevalence of 47.7% in 2021. With the highest incidence of stunting in Pakantan in 2020, namely 42.13%. And in 2019 the Study on the Nutritional Status of Indonesian Toddlers (SSGBI) reported that the incidence of stunting was in South Nias with a prevalence of 57.1%.

The incidence of stunting in the working area of the Panyabungan Jae Health Center is still relatively high and stunting is one of the problems that the government is paying attention to due to the high incidence rate in Indonesia and many government programs that promote stunting prevention from an early age. The lack of nutritional intake given to children is one of the causes of the high incidence in the Panyabungan Jae Health Center Work Area. The life of the community is still lacking from clean and healthy living behavior and the lack of attention and knowledge of parents to children about the food provided. And there is still a lack of interest from parents in bringing their children to the posyandu to find out the development of children, especially nutritional problems in children.

From the initial survey conducted by researchers on November 15, 2021, which was conducted by asking for data on nutritional status and stunting data through medical records at the Panyabungan Jae Health Center, researchers obtained data from 10 toddlers, 7 of whom were stunted.

From the description above, the researcher is interested in conducting research on "The Relationship Between Nutritional Status in Toddlers and Stunting Incidence in the Work Area of the Panyabungan Jae Health Center, Panyabungan District, Mandailing Natal Regency in 2022".

2. Method

This research was conducted with an analytical survey method, using a cross sectional method approach. This research was carried out in the working area of the Panyabungan Jae Public Health Center. The population in this study were toddlers who suffered from stunting at the Panyabungan Jae Public Health Center. Research sample. Based on the method used, the overall sample required 45 respondents. Data analysis used the chi-square test.

3. Results and Discussion

This research was started in January – March 2022. The method of collecting data at that time was self-conscious and without coercion from anyone. The researcher received approval from educational institutions, namely the Madina Husada Midwifery Academy and permission from Barbaran Jae Village, Kec. West Panyabungan to conduct an initial survey, after receiving a reply letter from Barbaran Jae Village, Kec. Panyabungan Barat i, then researchers can conduct research in. The researcher first asked 10 mothers in the village of Barbaran Jae about Toddler Development. That the mother was willing to be a respondent, then the researcher observed the questionnaire and checklist sheet, after the respondent had finished answering all the questionnaires distributed by the researcher. The researcher again collected all the questionnaires, then the researcher continued processing the data. The results of these studies can be seen in the table below.

Table 1
Characteristics of Respondents in the Work Area of the Panyabungan Jae Health Center,
Panyabungan District, Mandailing Natal Regency in 2022

No	Respondent characteristics	N	%
1	Toddler Age		
	1 Year	5	11,1
	2 Year	17	37,8
	3 Year	10	22,2
	4 Year	9	20,0
	5 Year	4	8,9
2	Gender		
	Male	24	53,3
	Woman	21	46,7
3	Level of Education		
	SD	21	46,7
	SMP	18	40,0
	SMA	6	13,3
	Perguruan Tinggi	-	-
4.	Economic Status		
	<1.000.000	29	64,4
	1.000.000- 2.000.000	13	28,9
	>2.000.000	3	6,7
5.	Mother's Age		
	<25 Year	1	2,2
	25 – 35 Year	31	68,9
	>35 Year	13	28,9
6.	Parity		
	Primipara	5	11,1
	Scundipara	14	31,1
	Multipara	26	57,8
	Grandemultipara	-	-

Based on Table 1 above, it can be seen that the most parity respondents aged under 2 years were 17 people (37.8%), male sex was 24 people (53.3%) with the majority education level of SD as many as 21 people (46.7%) and based on economic status <1.000.000 as many as 29 people (64.4%) The majority of mothers are 25-35 years old as many as 31 people (68.9%) Multipara parity as many as 26 people (57.8%). To test the relationship of independent variables which include parity, education, maternal age with the dependent variable, namely nutritional status with the incidence of stunting, bivariate analysis was carried out using the chi-square test with =0.05

which is described as follows.

Table 2.

Frequency Distribution of Respondents Based on Nutritional Status in the Work Area of the Panyabungan Jae Health Center, Panyabungan District, Mandailing Natal Regency in 2022

No	Nutritional Status	N	%
1	Good	12	26,7
2	Enough	20	44,4
3	Not Enough	13	28,9

Based on table 2, mother's knowledge is sufficient as many as 20 people (44.4%), good as many as 12 people (26.7%), less as many as 13 people (28.9%). Based on the results of the study, it was found that the nutritional status of children under five in the Panyabungan Jae Health Center working area was the majority of respondents with adequate nutritional status, namely 20 people (44.4%), while the minority with malnutrition status was 13 people (28.9%).

Nutritional status is one of the benchmarks of child development that is used to determine the nutritional intake needed. Each child has a different nutritional status, depending on gender, age, weight, height and head circumference by checking directly through the posyandu or pediatrician (WHO, 2020). In the research of Dwi Setia Marini (2020), nutritional status is an indirect cause that can affect the nutritional status of stunting, while food consumption related to inadequate intake is a direct cause of stunting. From the respondent's data (in Dwi Setia Marini's research) the results of good nutritional status are obtained, this means that the respondents or toddlers have had their nutritional intake fulfilled. Nutritional status was assessed from body weight compared to age (W/W). In addition, nutritional status can also be interpreted as an expression of a state of balance in the form of certain variables or the embodiment of nutriature in the form of certain variables.

According to Zella Novi Rahmaningrum (2020) in her research, malnutrition in the past will cause changes in metabolism in the brain, especially if it occurs during the golden period, namely the first thousand days of a child's life. In individuals with more severe and chronic stunting TB/U nutritional status, body growth will be disrupted, the body is smaller, followed by a smaller brain size. In addition to the reduced number of cells in the brain stem, there can be immaturity and imperfection of the biochemical organization in the brain. This situation affects the development of children's intelligence (Depkes RI, 2019).

From the results above, it is known that there is still a lack of attention from parents to toddlers on nutritional problems. Nutritional status in infancy is very important because it is one of the risk factors for morbidity and mortality. Good nutritional status for a person will contribute to his health and also to the ability to recover. The most influential risk factor for nutritional problems in toddlers is the occurrence of stunting in toddlers (Hartono, 2019: Edition 76 Pages 46-49).

Table 3.

Frequency Distribution of the Relationship Between Nutritional Status in Toddlers and Stunting Incidences in the Work Area of Panyabungan Jae Health Center, Panyabungan District, Mandailing Natal Regency in 2022

No	Nutritional Status	Stunting Incident				Amount		Prob (P)
		Short		Very Short		F	%	
		F	%	F	%			
1.	Good	10	22,2	2	4,4	12	26,7	0.025
2.	Enough	7	15,6	13	28,9	20	44,4	
3.	Not Enough	8	17,8	5	11,1	13	28,9	
Total		25	55,6	20	44,4	45	100	

Based on table 3, the majority of respondents who experienced stunting in the very short category with adequate nutritional status were 13 toddlers (28.9%), while the minority of respondents who experienced stunting in the very short category with good nutritional status were 2 toddlers (4.4%). Based on the results of data analysis with the chi-square test, a significance value of 0.025 was obtained. Based on this value, because the p value <0.05, then 0.025 <0.05, it can be concluded that "Nutrition Status in Toddlers is Associated with Stunting Incidence".

Based on the results of data analysis, it is known that all respondents are stunted with good

nutritional status with Z-Score <-2 , namely short 10 people (40.0%) while Z-Score <-3 which is very short as many as 2 people (10.0%). While the nutritional status is adequate with Z-Score <-2 , namely short as many as 7 people (28.0%) while Z-Score <-3 which is very short as many as 13 people (65.0%). And malnutrition status with Z-Score <-2 which is short as many as 8 people (32.0%), while Z-Score <-3 which is very short as many as 5 people (25.0%).

From the results of the Chi-Square test, it was found that p value = 0.025 \leq 0.05, then H_a was accepted and H_o was rejected, which means that there is a relationship between Nutritional Status in Toddlers and Stunting Incidence in the Work Area of Panyabungan Jae Public Health Center, Panyabungan District, Mandailing Natal Regency in 2022.

Mothers with proper feeding patterns to toddlers are closely related to the nutritional status of these toddlers. The better the pattern of feeding given, the better for toddlers. It is recommended that toddlers whose feeding patterns and food content are not good will make the nutritional status of toddlers less good. Stunting occurs as a result of chronic malnutrition. According to the United Nations International Children's Emergency Fund (UNICEF), stunting is a condition where height for age is below minus two standard deviations ($-2SD$). Research conducted by Sa'adah (2017) in the city of Padang Panjang, showed that there was a significant relationship between nutritional status in toddlers and the incidence of stunting with a P -value of 0.002 $<$ 0.05. The basic factors that cause stunting can interfere with intellectual growth and development which have an impact not only on shorter physique, but also on intelligence, productivity and achievement. In addition, children's health and development can be disrupted (UNICEF Indonesia, 2020).

This study is also continuous with research conducted by Zella Novi Rahmaningrum (2020), that there is a relationship between nutritional status in toddlers and the incidence of stunting, where the p -value is 0.001 $<$ 0.05. The nutritional status of toddlers has a big influence on the chance of stunting because stunting occurs as a result of chronic malnutrition that occurs for a long time in toddlers. Beberapa peneliti menemukan bahwa terdapat hubungan antara status gizi pada balita dengan kejadian stunting. Penelitian yang dilakukan oleh Sa'adah (2019) di kota Padang Panjang, menemukan bahwa terdapat hubungan yang bermakna antara status gizi pada balita dengan kejadian stunting (dengan p -value 0,002 $<$ 0,05). Faktor dasar yang menyebabkan stunting dapat mengganggu pertumbuhan dan perkembangan intelektual yang memiliki dampak tidak hanya pada fisik yang lebih pendek saja, tetapi juga pada kecerdasan, produktivitas dan prestasinya (UNICEF, 2021).

Several researchers found that there was a relationship between nutritional status in toddlers and the incidence of stunting. Research conducted by Sa'adah (2019) in the city of Padang Panjang, found that there was a significant relationship between the nutritional status of toddlers and the incidence of stunting (with p -value 0.002 $<$ 0.05). The basic factors that cause stunting can interfere with intellectual growth and development which have an impact not only on a shorter physique, but also on intelligence, productivity and achievement (UNICEF, 2021). Zella Novi Rahmaningrum (2020), found that the better the nutritional status of toddlers, the better for toddlers.

The life of the first day of birth is very influential on toddlers which is called the golden period. Amelia Tri Dwi (2020), found that during the golden period, under-five nutrition is fulfilled properly, it will make toddlers healthy and nutritious, but if during the golden period, under-five nutrition is disturbed, toddlers are likely to experience problems, especially stunting. Because one of the preventions of stunting is to monitor and improve the nutritional status of toddlers starting from the first day of life of a toddler.

The results of this study are in line with the results of the conclusions of Dwi Setia Marini's research (2020), namely there is a relationship between nutritional status in toddlers and the incidence of stunting with the results obtained p -value 0.001 $<$ 0.05 so H_o is rejected and H_a is accepted meaning there is a relationship between status nutrition in infants with stunting. According to previous researchers (in Dwi Setia Marini's study, 2020) found that the nutritional status of children under five had a significant relationship with the incidence of stunting. This is obtained through the nutritional status of toddlers, the better the nutritional status of toddlers, the better for toddlers and avoiding stunting. Because stunting occurs as a result of lack of nutritional intake so that the nutritional status of toddlers is not met properly.

According to the researcher's assumption, stunting is a chronic malnutrition problem caused

by food intake for a long time, resulting in a child's height not in accordance with his age standards. There is a significant relationship between the nutritional status of children under five and the incidence of stunting. The results of this study are in line with other studies, that the problem of nutritional status in toddlers with stunting is continuous. The findings from previous studies show that there is a relationship between the nutritional status of children under five and the incidence of stunting. There are no researchers who say that there is no relationship between nutritional status in toddlers and the incidence of stunting. Likewise in this study, that there is a relationship between the two variables, namely the nutritional status of children under five with the incidence of stunting.

4. Conclusion

Based on the results of the study, it can be concluded as follows: From the results of the study on 45 respondents in the Panyabungan Jae Health Center Work Area, Panyabungan District, Mandailing Natal Regency in 2022 based on the age characteristics of toddlers, the majority of toddlers were 2 years old as many as 17 toddlers (37.8%), while the minority 5 years old were 4 toddlers (8.9%), based on gender characteristics of toddlers, the majority of toddlers are male, namely 24 toddlers (53.3%) while the minority is female toddlers as many as 21 toddlers (46.7%). Elementary school education as many as 21 mothers (46.7%) while the minority of mothers with high school education were 6 mothers (13.3%), based on the characteristics of the economic status of the majority of respondents with income <1,000,000 as many as 29 respondents (64.4%) while the minority of respondents income >2,000,000 as many as 3 respondents (6.7%), based on the characteristics of the mother's age the majority of mothers aged 25-35 years, namely 31 mothers (68.9%) while the minority of mothers aged <20 years were 1 mother (2.2%), based on parity characteristics, the majority of multiparous mothers were 26 mothers (57.8%) while the minority were primiparous mothers, which were 5 mother (11.1%). And the majority of children under five are of adequate nutritional status, as many as 20 people (44.4%) and experienced stunting in the short stunting category with Z-Score <-2, namely as many as 25 toddlers (55.6%)

From the results of research on 45 respondents obtained a p-value of 0.025 with $\alpha = 0.05$, it can be concluded that there is a significant relationship between the nutritional status of toddlers and the incidence of stunting. H_0 is rejected and H_a is accepted, which means that there is a relationship between nutritional status in toddlers and the incidence of stunting in the Panyabungan Jae Community Health Center Work Area, Panyabungan District, Mandailing Natal Regency in 2022.

References

- (Maysaroh & Mariza, 2021) FAADHILAH, M., & Etrawati, F. (2021). Efektivitas Media Kesehatan Kartu Kwartet Terhadap Peningkatan Pengetahuan Dan Sikap Dalam Pencegahan Kehamilan Di Usia [Sriwijaya University]. <https://repository.unsri.ac.id/65670/>
- Jamini, T., & Machelia, S. (2021). Gambaran Kepatuhan Mahasiswa dalam Melaksanakan Protokol Pencegahan Covid-19 di Stikes Suaka Insan Banjarmasin. *Jurnal Penelitian UPR*, 1(2), 33-39.
- Marahmah, M. (2020). Implementasi Program Penanggulangan TB Paru dengan Strategi Directly Observed Treatment Shortcourse di Puskesmas Panyabungan Jae Kabupaten Mandailing Natal. Universitas Islam Negeri Sumatera Utara.
- Masnarivan, Y., Haq, A., & Putri, A. P. (2021). Upaya Pencegahan Penularan Covid-19 Pada Masyarakat selama PSBB di Provinsi Sumatera Barat. *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, 6(1), 201-212.
- Maysaroh, S., & Mariza, A. (2021). Pengetahuan Tentang Keputusan Pada Remaja Putri. *Jurnal Kebidanan Malahayati*, 7(1), 104-108.
- Nahdliyat, I., & Winata, A. (2021). Penerapan Blended Learning Pada Pelajaran Matematika Dengan Media Live Worksheets Untuk Meningkatkan Hasil Belajar Peserta Didik Materi Pengolahan Data Kelas V Di Mim 14 Pambon. *Prosiding SNasPPM*, 6(1), 591-597.
- Nasution, M. (2021). Pelaksanaan Peraturan Menteri Kesehatan Nomor 97 Tahun 2014 Pasal 14 Ayat (1) tentang persalinan harus dilakukan di fasilitas pelayanan kesehatan (studi kasus di Desa Batang Gadis Kecamatan Panyabungan Barat Kabupaten Mandailing Natal. IAIN Padangsidimpuan.
- NURHAYATI, A., RAMADHANI, R. F. W., & UMAMY, R. (2021). Faktor--Faktor Yang Berhubungan Dengan Pemilihan Metode Alat Kontrasepsi Suntik Oleh Wanita Usia Subur Di Masa Pandemi Covid--19 Wilayah Pmb Juju Juharni Kota Depok Periode 2020. *STIKES RSPAD Gatot Soebroto*.
- Pemayun, C. I. M., & Winangsih, R. (2021). Gambaran Pengetahuan Ibu Tentang Pijat Bayi Di Desa Dajan Peken

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Tabanan. JURNAL MEDIKA USADA, 4(1), 28-33.

Saputri, R. A. (2019). Upaya pemerintah daerah dalam penanggulangan stunting di Provinsi Kepulauan Bangka Belitung. Jdp (Jurnal Dinamika Pemerintahan), 2(2), 152-168.

Usman, S., Wahyuni, A. S., Sari, N., Siregar, C. T., & Ariga, R. A. (2020). Relationship of Family Empowerment with Prevention of TB Transmission on Patients in Area of Puskesmas Siabu Mandailing Natal, Indonesia.