THE RELATIONSHIP BETWEEN FAMILY ENVIRONMENTAL SANITATION AND THE INCIDENCE OF STUNTING IN TODDLERS IN THE MEDAN BELAWAN I VILLAGE AREA

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Abstract

Abstract contains: A good and healthy environment is important to support human survival. Environmental cleanliness can reflect the lifestyle of a society. The achievement of good environmental sanitation is highly dependent on the process and behavior of the community in maintaining the quality of environmental sanitation, stunting is short or very short based on length/height according to age less than -2 definition standards (SD) on the growth curve. The purpose of this study is to determine the relationship between environmental sanitation and stunting in the Medan Belawan I area. This type of research is cantitacle. The population includes the home environment of toddlers who were taken as many as 40 respondents. sampling using *simple random sampling* technique. The instrument used was a questionnaire from the Ministry of Health. The results of this study showed that there was no effect of family environmental sanitation on the incidence of stunting with *a p value* of 0.900.

Keywords: Environmental Sanitation, Stunting, Toddlers

Introduction

The problem of sanitation development in Indonesia is a problem of socio-cultural challenges, one of which is the behavior of residents who are used to defecating everywhere, especially in water bodies that are also used for washing, bathing and other hygiene needs. In the Declaration *Johannesburg* outlined in the Millennium Development Goals (MDGs), agreed in 2015 to halve the number of people in the world who lack basic hygiene services, namely: clean toilets, and who should have access to basic hygiene requirements. toilets) in 2025. Countries in the world, including Indonesia, have approved this regulation (Marwanto, 2019).

A good and healthy environment is important to support human survival (Khairudin & Romli, 2024). The environment is everything that exists around us, both living and non-living such as air, water, soil and everything that exists such as plants, animals, microorganisms. Environmental cleanliness is very important in daily life because it affects human health and society. Environmental cleanliness can reflect the lifestyle of a society. The achievement of good environmental sanitation is highly dependent on the process and behavior of the community in maintaining the quality of environmental sanitation.(Yuri Pradika & Djasfar, 2023)

Environmental sanitation is an effort to keep the community's living environment clean and healthy and avoid things that can cause it (Sekarningrum Bintarsih, Nunung Nurwati, 2024). Good environmental management and sanitation ensure a lifestyle that is free from stunting (Agustiani & Meliyana, 2024).

Stunting in early childhood can be caused by various environmental problems, not just malnutrition (Gea et al., 2023). Sanitation aspects such as having latrines, managing garbage, and having water for daily use are important parts of the home environment. Environmental factors can indirectly affect stunting rates. Environmental conditions and low hygiene levels can lead to infectious diseases such as diarrhea and respiratory infections, which can increase stunting rates (Indarwati et al., 2023).

Stunting is a condition in which children under the age of five are unable to grow due to long-term nutritional deficiencies, especially during the first 1,000 days of their lives. About 161 million children under the age of five are diagnosed with stunting worldwide, with half of that number living in Asia (Nurwahyuni et al., 2023).

One of the 2nd sustainable development goals of the Sustainable Development Goals (SDGs) is to eliminate hunger and all types of malnutrition by 2030, along with achieving food security. Another goal is to reduce the stunting rate by 40% by 2025.

In 2018, the World Health Organization (WHO) reported that the number of stunted children under five worldwide reached 22.9%, or 154.8 million children under five, and Indonesia was included in the top five countries affected by stunting. After Timor Leste (50.5%), India (38.4%), and Indonesia (36.4%), Indonesia is the country with the third highest prevalence of stunting in the East Southeast Asian region. In 2019, the national stunting prevalence was 27.67, but in 2020 it rose to 24.1% (Ayu et al., 2024).

According to the Indonesian Nutrition Status Study report of the Ministry of Health, the prevalence of stunting in Indonesia decreased from 27.7% in 2019, 24.4% in 2021, to 21.6% in 2022 with the majority occurring in children aged 3-4 years as much as 6%. However, this figure is still not in accordance with the WHO standard which targets less than 20%. For this reason, the government is trying to reduce the stunting rate to 17% in 2023 and 14% in 2024 (Lestari, 2023).

This study aims to determine the relationship between environmental sanitation and stunting in the Medan Belawan I area.

Method

This type of research is cantitacle. The population includes the home environment of toddlers who were taken as many as 40 respondents. sampling using *simple random sampling technique*. The instrument used was a questionnaire from the Ministry of Health. The data collection technique in this study is by distributing questionnaires to respondents. The data processing technique includes 5 steps, namely editing, *coding*, entering and processing data using *Microsoft Excel* and SPSS 22. Data analysis uses univariate analysis to create a frequency distribution and percentage proportion for each research variable. Once each element is assigned, a tab is created. After tabulating, the frequency distribution and percentage of each variable are calculated. The results of the ordinal scale univariate analysis are presented in the form of a frequency distribution table expressed in percentages.

Result

Frequency Distribution Table of Maternal Respondent Characteristics

No	Characteristic	Number (n)	Percent (%)
1	**Mother's age**		
	Late Teens (17-25 years)	9	22.5
	Early Adulthood (26-35 Years Old)	28	70.0
	Late Adulthood (36-45 years)	3	7.5
	Total	40	100
2	**Education Level**		
	Junior High School/Equivalent	10	25.0
	High School/Equivalent	30	75.0
	Total	40	100
3	**Work**		
	IRT	29	72.5
	Merchant	11	27.5
	Total	40	100
4	**Income Level**		
	MSEs < RP. 2.355.662	30	75.0%
	MSEs > RP. 2.355.662	10	25.0%
	Total	40	100%
5	**Number of Family Members**		
	< 4 members	20	50.0%
	> 4 members	20	50.0%
	Total	40	100%
6	**Number of children in a family**		
	<2 children	20	50.0%
	>2 children	20	50.0%
	Total	40	100%

Based on the table above, it can be seen that the majority of respondents are Early Adults (26-35 years old) as many as 28 respondents (70.0%), the majority of respondents at the education level of high school/equivalent are 30 respondents (75.0%), the majority of employment respondents are IRT (housewives) as many as 29 respondents (72.5%), the majority of respondents are MSEs < RP. 2,355,662 as many as 30 respondents (75.0%), respondents have the same number of family members <4 members 20 respondents (50.0%) and >4 members of 20 respondents (50.0%), and respondents had the same number of children in the family <2 children 20 respondents (50.0%) >2 children 20 respondents (50.0%).

Frequency Distribution Table of Characteristics of Toddler Respondents

No	Characteristic	Number (n)	Percent (%)
1.	**Gender**		
	Law Law	19	47.5
	Woman	21	52.5
	Total	40	100.0
2.	**Toddler Age**		
	0-24 months	3	7.5
	25-60 months	37	92.5
	Total	40	100.0
3.	**Family Environmental Sanitation**		
	Healthy Environment (1068-1200)	8	20.0
	Unhealthy Environment(<1068)	32	80.0
	Total	40	100.0
4.	**Stunting Incidence**		
	Stunting (<-2SD)	4	10.0
	Nornal (>=-2SD)	36	90.0
	Total	40	100.0

Based on the table above, it can be seen that of the 40 respondents under five years old, the majority of the gender is found in 21 respondents (52.5%). Of the 40 respondents under five years old, the majority were at the age of 25-60 months as many as 37 respondents (92.5%). Of the 40 respondents, the majority of respondents in family environmental sanitation were in unhealthy environments as many as 32 respondents (80.0%). And in the incidence of stunting from 40 normal toddler respondents, as many as 36 respondents (90.0%).

	Categories Stunting						
Environmental Health	Stunting (<-2SD)		Normal (>-2SD)		Total		P value
	N	%	N	%	N	%	
Unhealthy	3	7,5	28	70	31	77,5	**0,900**
healthy	1	2,5	8	20	9	22,5	
Total	4	10	36	90	40	100	

Based on the table above, it can be seen that the majority of respondents who experience stunting live in an unhealthy environment as many as 3 respondents (7.5%) out of a total of 4 respondents (10%) who experience stunting. Meanwhile, normal respondents lived in a healthy environment as many as 8 respondents (20.0%) out of a total of 36 respondents (90%) who were normal.

Based on the table above, it can also be seen that there is no relationship between environmental health variables and stunting with *a p value* > 0.05, which is 0.900 where the provision is that a variable is declared unrelated if the *p value* obtained > 0.05.

Discussion

The results of this study showed that there was no effect of family environmental sanitation on the incidence of stunting. The results of this study agree with the research conducted by Susanty et al., (2024) about "The Relationship between Environmental Sanitation and the Incidence of Stunting in Toddlers in Nagari Canduang Koto Laweh, Canduang District, Agam Regency in 2023" which stated that there was no significant relationship between family environmental sanitation and stunting incidence.

However, this study does not agree with the research Ainin et al., (2023) about "The Relationship between Maternal Education, Parenting and Environmental Sanitation Practices and the Incidence of Stunting in Toddlers in Locus Village, Stunting Working Area, Paron Health Center, Ngawi Regency" which states that there is a There is a significant relationship between family environmental sanitation and stunting incidence.

According to the researcher's assumption, there is no relationship between environmental sanitation and stunting incidence. Stunting can be caused by other factors such as the location of the study. The results of the study sometimes differ in the area where the research is conducted due to demographic and cultural differences in the community.

In addition, other factors may affect the cause. For example, a normal or non-stunted toddler may have an unhygienic environment, but parents are not stunted because they educate their children well. Other factors include food security and the possibility that children living in poor environments have food-insecure families, so that children receive adequate nutritional intake, avoiding stunting.

One of the indicators of health status in Indonesia is the nutritional status of toddlers. Good nutrition helps the growth and development of children to reach ideal maturity (Kurniawan et al., 2024).

Stunting is a sign of growth failure, or decreased growth, where a child's height is shorter than the normal height of a child his or her age (Kuewa et al., 2021). Stunting in children can cause pain, death, physical growth disorders, mental, cognitive, and motor development disorders (Olo et al., 2020).

One effective way to prevent stunting is to make preventive efforts early by encouraging people to keep the environment clean. Poor environmental conditions can be one of the causes of stunting (Sari, 2023).

Conclusion

In this study, from the results of the chi-square statistical test, it was stated that there was no effect of family environmental sanitation on the incidence of stunting with *a p value* of > 0.05, which is 0.900, where the provision is that a variable is declared unrelated if the *p value* obtained > 0.05.

References

[1] Agustiani, R., & Meliyana, E. (2024). The relationship between environmental sanitation and stunting incidence. *J Professional Nurse Research*, *6*(4), 1669–1678. http://jurnal.globalhealthsciencegroup.com/index.php/JPPP

[2] Ainin, Q., Ariyanto, Y., & Kinanthi, C. A. (2023). The Relationship between Maternal Education, Parenting and Environmental Sanitation Practices and the Incidence of Stunting in Toddlers in Locus Stunting Village, Paron Health Center Working Area, Ngawi Regency. *Journal of Public Health*, *11*(1), 89–95. https://doi.org/10.14710/jkm.v11i1.35848

[3] Ayu, N., Eka, M., Komang, N., Resiyanthi, A., Ayu, I. G., Satya, P., Luh, N., Intan, G., & Parwati, P. A. (2024). *JAI: Journal of Abdimas ITEKES Bali Institute of Technology and Health (ITEKES) Bali Efforts to Control The Rate Of Stunting Incidents Through A Complement*.*3*(1), 86–91.

[4] Gea, W., Nababan, D., Sinaga, J., Marlindawani, J., & Anita, S. (2023). The Relationship

between Environmental Sanitation and the Incidence of Stunting in Toddlers in the Uptd Lotu Health Center Area, North Nias Regency in 2023. *Prepotive : Journal of Public Health*, *7*(3), 16336–16356. https://doi.org/10.31004/prepotif.v7i3.20706

[5]   Indarwati, S., Barus, L., Masra, F., Environment, K., & Ministry of Health, P. (2023). *Environmental sanitation of stunting toddlers in the working area of the health center*. *3*(4), 233–240.

[6]   Khairudin, R., & Romli, A. D. (2024). *Socialization of the importance of environmental sanitation in Ciwaringin Village*. *3*(1), 4138–4143.

[7]   Kuewa, Y., Herawati, H., Sattu, M., Otoluwa, A. S., Lalusu, E. Y., & Dwicahya, B. (2021). The relationship between environmental sanitation and the incidence of stunting in toddlers in Jayabakti village in 2021. *Public Health J*, *12*(2), 112–118. https://journal.fkm-untika.ac.id/index.php/phj

[8]   Kurniawan, H. D., KhansaAzizah, F., & Pirususanti, R. D. (2024). ANTHROPOMETRIC MEASUREMENT AND NUTRITION EDUCATION AS A PREVENTIVE EFFORT AGAINST STUNTING AT POSYANDU DUSUN KIKIS, KEMUNING VILLAGE, NGARGOYOSO DISTRICT, KARANGANYAR REGENCY, CENTRAL JAVA PROVINCE. *Journal of Community Service*, *Vol. 02*, N.

[9]   Lestari, T. R. . (2023). Stunting in Indonesia: The Root of the Problem and Its Solution. *Quick Info: A Brief Study of Actual and Strategic Issues*, *XV*(14), 21–25.

[10]   Marwanto, A. (2019). *THE RELATIONSHIP BETWEEN THE LEVEL OF KNOWLEDGE AND ATTITUDES WITH THE IMPLEMENTATION OF THE FIRST PILLAR OF COMMUNITY-BASED TOTAL SANITATION (STBM) IN THE WORKING AREA OF THE UPTD OF THE RATU AGUNG CARE HEALTH CENTER, PEMATANG VILLAGE, THE GOVERNOR OF BENGKULU CITY*. *7*(1), 1–6.

[11]   Nurwahyuni, N., Nurlinda, A., Asrina, A., & Yusriani, Y. (2023). Socioeconomic Level of Mrs. Baduta Stunting. *Jurnal Ilmiah Kesehatan Sandi Husada*, *12*(2), 331–338. https://doi.org/10.35816/jiskh.v12i2.1080

[12]   Olo, A., Mediani, H. S., & Rakhmawati, W. (2020). The Relationship between Water and Sanitation Factors and the Incidence of Stunting in Toddlers in Indonesia. *Journal of Early Childhood Education*, *5*(2), 1035–1044. https://doi.org/10.31004/obsesi.v5i2.521

[13]   Sari, N. (2023). *Stunting prevention from an early age through an appeal to maintain environmental sanitation to the community in Peres Village, Pulo Panjang Village*. pp. 58–65.

[14]   Sekarningrum Bintarsih, Nunung Nurwati, H. W. (2024). *Environmental sanitation in urban residential areas (cases in communities in the Kebon Jeruk Village Area, Bandung City).* *8*(1), 102–114.

[15]   Susanty, S. D., Fatma, F., & Fortuna, A. D. (2024). The Relationship between Environmental Sanitation and the Incidence of Stunting in Toddlers in Nagari Canduang Koto Laweh, Canduang District, Agam Regency in 2023. *Human Care Journal*, *9*(1), 1–8.

[16]   Yuri Pradika, & Djasfar, S. P. (2023). Socialization of the importance of environmental sanitation to the community of Rt 02 Rawa Buaya Cengkareng, West Jakarta. *Journal of Social Community Service*, *6*(1), 22–29. https://doi.org/10.57213/abdimas.v6i1.146