



History of Infectious Diseases in Toddlers and Frequency of Community Health Center Nutrition Services with Stunting Incidents

Ika Suhartanti^{1*}, Nurul Mawaddah¹, La Marwan¹

¹ Nursing Science Study Program, Majapahit College of Health Sciences, Mojokerto, Indonesia

Article History

Submitted: 11-10-2023

Revised: 17-12-2023

Accepted: 19-12-2023

doi.org/10.58545/jkki.v3i3.72

Copyright (c) 2023

Ika Suhartanti

This is an open-access article under the CC-BY-SA License.



Abstract

Toddlers are an important period in the process of growth and development of a child. Malnourished children can experience malnutrition and this can result in stunting. Stunting incidents could have a negative impact on the growth and development period of toddlers. There were several factors that influenced the incidence of stunting, both directly and indirectly. Stunting was still a serious health problem facing Indonesia. This study aims to analyze the relationship between the history of infectious diseases and the frequency of community health centre nutrition services with the incidence of stunting. The research design was cross-sectional with a stratified simple random sampling technique taken from 8 posyandu (Integrated Healthcare Center) with a total sample of 112 toddlers. This research was conducted in the work area of the Saritani Community Health Center, Boalemo Regency, Gorontalo Province, from January to February 2023. The data analysis technique used in this research was the Chi-Square test. The results of the study showed that there was a significant relationship between the history of infectious diseases in toddlers and the incidence of stunting (p value=0.006; p -value $\leq \alpha = 0.05$), OR value=2.804 and there was a significant relationship between the frequency of health centre nutrition services and the incidence of stunting (p value=0.001; p -value $\leq \alpha = 0.05$), OR value=2.859 in the working area of the Saritani Health Center, Boalemo Regency. Nurses can carry out health promotion efforts for mothers of toddlers to increase stunting prevention by knowing the factors that cause stunting. Increase efforts to provide nutritional education services related to stunting at community health centres, namely the First 1000 Days of Life, Infant and Child Feeding Practices, and routine exclusive breastfeeding.

Keywords: Infectious Diseases, Toddlers, Nutrition Services, Stunting

Correspondence

Ika Suhartanti,

Nursing Science Study Program, Majapahit College of Health Sciences

Mojoanyar, Mojokerto, East Java, Indonesia

Email: ikanerstanti@gmail.com

How to cite:

Suhartanti, I., Mawaddah, N., & Marwan, L. (2023). History of Infectious Diseases in Toddlers and Frequency of Community Health Center Nutrition Services with Stunting Incidents. *Jurnal Kesehatan Komunitas Indonesia*, 3(3), 353–362. <https://doi.org/10.58545/jkki.v3i3.72>

I. BACKGROUND

Toddlers are children aged 0-59 months or what are often known as children under five years (Depkes RI, 2009). The toddler years are an important period in the process of growth and development of a child (Sutomo & Anggraini, 2010). Children who are malnourished can experience malnutrition and have an impact on stunting (Devi, 2010). Stunting events can have a negative impact on the growth and development period of toddlers. The impact of stunting in the short term is disruption of brain development, intelligence, disruption of physical growth, and metabolic disorders in the body. Meanwhile, in the long term, the body's immunity decreases so that toddlers get sick easily and have a high risk of experiencing degenerative diseases (Kemenkes RI, 2016).

Based on the World Health Organization (WHO), the incidence of stunting globally reached 22% or 149.2 million in 2020 (WHO, 2020). Stunting is still a serious health problem facing Indonesia. Based on data from the 2022 National Nutrition Status Survey (SSGI), the prevalence of stunting in Indonesia is 21.6%. This number decreased compared to the previous year, namely 24.4%. Even though it is decreasing, this figure is still

high, considering that the stunting prevalence target in 2024 is 14% and the WHO standard is below 20% (SSGBI, 2022). The Indonesian Nutritional Status Study (SSGI) results show that the stunting prevalence rate in Gorontalo Province in 2021 was 29% (SSGBI, 2021). From the prevalence data, one of the districts in Gorontalo Province, namely Boalemo Regency, has a stunting prevalence of 29.8% (Dinkes Kab. Boalemo, 2021).

The nutrition program is one part of the UKM services at the Community Health Center. In order to support the achievement of the National Strategy for the Acceleration of Stunting Prevention for 2018-2024 and the 2020-2024 RPJMN, quality specific nutritional interventions are needed at Community Health Centers as First Level Health Facilities (FKTP). Until now, the Community Health Center does not have nutritional service management guidelines that can be used as a reference for implementing a quality intervention process. This is in line with a preliminary study conducted in the Saritani Community Health Center working area that the prevalence of stunting in 2021 has not decreased from the previous year even though various programs have been implemented and

provided education to mothers of toddlers to improve toddler nutrition.

The incidence of stunting illustrates the existence of chronic nutritional problems which are influenced by the condition of the mother or prospective mother, the fetus, including diseases suffered during the toddler years (Ministry of Health of the Republic of Indonesia, 2016). Several factors that can influence the incidence of stunting include the mother's lack of knowledge regarding nutrition, nutritional awareness (Kadarzi) family behavior such as weighing regularly, giving exclusive breast milk, eating a variety of foods, using iodized salt and providing nutritional supplements as recommended, history of illness. infection, clean and healthy living behavior (PHBS), community health service program factors, especially from community health center services for toddlers who experience stunting (Mitra, 2015). Based on the description above, researchers are interested in conducting research on "The Relationship between History of Infectious Diseases in Toddlers and Frequency of Community Health Center Nutrition Services with Stunting Incidents"

2. METHODS

This research was an analytical observational research design cross sectional. The population in this study were mothers who had toddlers aged 6-59 months. The sample in this study was 112 people taken using techniques stratified simple random sampling at 8 posyandu. This research was carried out in the work area of the Saritani Community Health Center, Boalemo Regency, Gorontalo Province from January to February 2023. Techniques and instruments for collecting data were interviews using questionnaires. The data analysis technique in this study used the Chi Square test with a significant value of ≤ 0.05 .

3. RESULTS

History of Toddler Infections, Frequency of Community Health Center Nutrition Services, and Stunting Incidents

The following table 1 presents the results of the history of infectious diseases in children under five, the frequency of community health center nutrition services and the incidence of stunting in the Working Area of the Saritani Health Center, Boalemo Regency..

Table 1. The history of infectious diseases in children under five, the frequency of community health center nutrition services and stunting incidence (n=112)

Variable	Frequency	Percentage (%)
History of infectious disease:		
Have a history of infectious disease	76	67,9
Has no history of infectious disease	36	32,1
Frequency of Community Health Center Nutrition Services		
Less	71	63,4
Good	41	36,6
Stunting Incidents		
Yes	57	50,9
No	55	49,1

Descriptive results based on table 1 can be interpreted that in this study, the majority of toddlers had a history of infectious diseases (67.9%), the frequency of community health center nutrition services was mostly categorized as less (63.4%), while the incidence of stunting was higher. half (50.9%).

The Relationship between History of Infectious Diseases in Toddlers and Stunting incidents

The following table 2 presents an analysis of the relationship between a history of infectious diseases and the incidence of stunting in the Working Area of the Saritani Health Center, Boalemo Regency

Table 2. Analysis of the relationship between a history of infectious diseases and stunting incidents (n=112)

History of Infectious Diseases	Stunting incidents		Total	
	Yes	No	n	%
Have a history of infectious disease	46	30	76	67,8
Has no history of infectious disease	11	25	36	32,2
Total	57	55	112	100

p-value = 0,006; OR = 3,845

The results of the analysis of the relationship between the history of infectious diseases and the incidence of stunting showed that 46 respondents (38.7.8%) were stunted and had a history of infectious diseases. The statistical test results obtained *p-value* 0.006 means that

it can be concluded that there is a relationship between the history of infectious disease and the incidence of stunting.

The Relationship Between Frequency of Health Center Nutrition Services and Stunting incidents

The following table 3 presents an analysis of the relationship between the

frequency of health center nutrition services and the incidence of stunting in the Working Area of the Saritani Health Center, Boalemo Regency.

Table 3. Analysis of the relationship between the frequency of health center nutrition services and the stunting incidents (n=112)

Frequency of Community Health Center Nutrition Services	Stunting incidents		Total	
	Yes	No		
Less	45	26	71	63,4
Good	12	29	41	36,6
Total	57	55	112	100

p-value = 0,001; OR = 4,183

The results of the analysis of the relationship between the frequency of community health center nutrition services and the incidence of stunting showed that 45 respondents (36.1%) experienced stunting and the frequency of community health center nutrition services was less. The statistical test results obtained *p-value* 0.001 means that it can be concluded that there is a relationship between the frequency of health center nutrition services and the incidence of stunting.

4. DISCUSSION

Univariate results showed that 46 respondents (38.7.8%) experienced stunting and had a history of infectious diseases. The most common infectious diseases experienced by toddlers in the working area of the Saritani Community Health Center, Boalemo Regency, are

diarrhea and ISPA with a period of more than 3 times. The results of the research using statistical tests show that there is a relationship between a history of infectious diseases and the incidence of stunting (*p*=0.006). This is in line with the results of other research which states that there is a significant relationship between a history of diarrhea and the incidence of stunting (*p*= 0.025) (Desyanti & Susila Nindya, 2017). The research results of Yulnefia & Sutia (2022) also stated that there was a significant relationship between a history of infectious disease and the incidence of stunting in children aged 24-36 months (*p*=0.001).

Several toddlers in the working area of the Saritani Community Health Center, Boalemo Regency, were affected by diarrhea, possibly due to the habit of consuming food carelessly, such as buying

unpackaged snacks on the side of the road whose cleanliness was not clear and giving them to toddlers. Poor hygiene practices create a high risk of bacteria. These bacteria will enter the child's body and can have an impact on the child's health, one of which is the emergence of diarrhea and can cause the child to lose fluids and a number of important nutrients for the body (Welasih & Wirjatmadi, 2012). Children who experience diarrhea for a longer duration (more than four days) will cause the child to experience more nutritional loss, if this is not followed up immediately and balanced with appropriate intake, failure to thrive will occur (Nasikhah & Margawati, 2012). Children who experience ARI will also experience malnutrition because they have a low immune system so they are easily exposed to infectious diseases and the impact of these infectious diseases can inhibit growth. Diarrhea and ARI that occur over a long period of time when toddlers are in the first two years of life can have an impact on stunted growth (Maxwell, 2011).

The univariate results showed that 45 respondents (36.1%) had poor toddlers experiencing stunting and the frequency of community health center nutrition services. The results of research using statistical tests show that there is a

relationship between the frequency of health center nutrition services and the incidence of stunting ($p=0.001$). Based on research results, the Saritani Community Health Center, Boalemo Regency, has made efforts to provide health services in the form of nutrition education and counseling, but there is still a lack of frequency of counseling or education related to stunting, which is only carried out once every 6 months.

Efforts to increase the utilization of health services include increasing health information for mothers with various activities, for example increasing counseling or education about nutrition for mothers of toddlers with nutritional problems or stunting (Hestuningtyas, 2013). Health service efforts, especially nutritional counseling and counseling services, need to pay attention to the media used, the media must be interesting and can produce interactive communication for the target, namely mothers of toddlers (Kemenkes RI, 2021).

The intervention in the form of counseling or education that is most decisive for reducing the prevalence of stunting is increasing education regarding the effectiveness of the First 1,000 Days of Life (HPK), IYCF (Infant and Child Feeding Practices), and exclusive

breastfeeding (Maidartati et al., 2021).. Results of research conducted by Bellaet al., (2020) shows that there is a significant relationship between the habit of obtaining health services and the incidence of stunting in toddlers from poor families ($p=0.001$).

The results of the study showed that toddlers who had a history of infectious diseases had a 2,804 times greater risk of stunting and the frequency factor of poor health center nutrition services was 2,859 times a greater risk of stunting. Based on these results, the frequency of community health center nutrition services has the highest risk factor. The results of this research are in line with Bella's research et al., (2020) shows that there is a relationship between the habit of getting health services and the incidence of stunting in toddlers with a value of $OR=8.067$. These results show that the habit of health services has a 8.067 times greater risk of stunting.

The factors that cause stunting in toddlers are divided into direct factors and indirect factors. Direct factors include toddler nutritional intake factors, history of infectious diseases, maternal risk factors during pregnancy, and nutritional awareness family factors (Kadarzi), while indirect factors include PHBS factors

(Healthy and Clean Living Behavior), food availability factors, education level factors. mother, economic condition factors and health center nutrition service factors (WHO 2017; Lusiani & Anggraeni, 2021; Direktorat Bina Gizi dan KIA, 2012).

5. CONCLUSION

Most toddlers have a history of infectious diseases. The frequency of nutrition services at community health centers is mostly lacking, More than half of toddlers experience stunting, and There is a relationship between the history of infectious diseases in toddlers and the frequency of community health center nutrition services.

AUTHOR CONTRIBUTIONS

Substantial contributions to conceptualization, data curation, analysis: Ika Suhartanti, Nurul Mawaddah, La Marwan. Supervision Writing - review & editing: Ika Suhartanti, Nurul Mawaddah.. Manuscript revisions: Ika Suhartanti.

ACKNOWLEDGMENT

We would like to thank you for the Nursing Science Study Program, Majapahit College of Health Sciences, Mojokerto that facilitate research activities.

CONFLICT OF INTEREST

The authors declare no conflict of interest for this publication.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

- Alfarizi, T. F., & Kurniasari, L. (2022). Literature Review : Hubungan Kebijakan dan Pelayanan Kesehatan dengan Kejadian Stunting. *Borneo Student Research*, Vol. 3, No. 3, p. 2949–2955. <https://journals.umkt.ac.id/index.php/bsr/article/view/3188>
- Depkes RI. (2009). *Klasifikasi Umur*. Jakarta. <https://libportal.jica.go.jp/library/Archive/Indonesia/234i.pdf>
- Desyanti, C., & Susila Nindya, T. (2017). Hubungan Riwayat Penyakit Diare dan Praktik Higiene dengan Kejadian Stunting pada Balita Usia 24-59 Bulan di Wilayah Kerja Puskesmas Simolawang, Surabaya. *Amerta Nutr*, p. 23–33. <https://doi.org/10.20473/amnt.v1i3.2017.243-251>
- Devi (2010). *Nutrition And Food*. Jakarta: PT. Kompas Media Nusantara
- Dinkes Kab. Boalemo. (2021). *Rekapitulasi Balita Stunting Kabupaten Boalemo*. Gorontalo: Dinkes Kabupaten Boalemo. <https://www.dinkesboalemokab.xyz/>
- Direktorat Bina Gizi. (2012). *Direktorat Bina Gizi Ditjen Bina Gizi dan KIA*, Kemenkes RI.
- Fadillah, N.A. (2021). Analisis Faktor Risiko Kejadian Stunting pada Balita Usia 6 Bulan – 23 Bulan di Puskesmas Pekkea Kecamatan Tanete Rilau Kabupaten Barru Tahun 2020. UNI Makassar. <https://repositori.uin-alauddin.ac.id/19152/>
- Hestuningtyas, T. R. 2013. Pengaruh Konseling Gizi terhadap Pengetahuan, Sikap, Praktik Ibu dalam Pemberian Makan Anak dan Asupan Zat Gizi Anak Stunting Usia 1-2 Tahun di Kecamatan Semarang Timur (Skripsi). Universitas Diponegoro. <https://doi.org/10.14710/jnc.v3i1.4520>
- Kemenkes. (2016). *Pedoman Manajemen Pelayanan Puskesmas Tahun 2016*. Jakarta. <https://peraturan.bpk.go.id/Details/13092/permenkes-no-44-tahun-2016>

- Kemenkes. (2017). Buku Kesehatan Ibu dan Anak (KIA). Jakarta. https://kesmas.kemkes.go.id/assets/uploads/contents/others/BUKU_KIA_REVISI_2020 LENGKAP.pdf
- Lusiani, V. H. & Anggraeni, A. D. (2021). Hubungan Frekuensi dan Durasi Penyakit Infeksi dengan Kejadian Stunting di Wilayah Kerja Puskesmas Kebasen Kabupaten Banyumas, *Journal of Nursing Practice and Education*, Vol. 2, No.1,p.1-13. <https://doi.org/10.34305/jnpe.v2i1.374>
- Maidartati, Hayanti, S., & Wahyuni, A. R. (2021). Gambaran Perilaku Orang Tua Tentang Pencegahan Stunting Pada Balita. *Jurnal Keperawatan*, Vol. 9, No. 2, p. 154– 165. <https://ejurnal.ars.ac.id/index.php/keperawatan/article/view/565>
- Maxwell, S. (2011). Module 5: Cause of Malnutrition. United Nations System Standing Committee on Nutrition (UNCS). <https://www.enonline.net/module5>
- Mitra. (2015). Permasalahan Anak Pendek (Stunting) dan Intervensi untuk Mencegah Terjadinya Stunting (Suatu Kajian Kepustakaan). *J Kesehatan Komunitas*. Vol.2, No.6, p.254–261. <http://doi.org/10.25311/jkk.Vol2.Iss6.85>
- Nasikhah R & Margawati A. (2012). Faktor risiko kejadian stunting pada balita usia 24-36 bulan di kecamatan semarang timur. *Journal of Nutrition College*. Vol, 1, No. 1, p. 176-184. <https://doi.org/10.14710/jnc.v1i1.738>
- SSGBI. (2022). Survei Status Gizi Balita Indonesia (SSGBI). Jakarta: Kemenkes RI. https://ayosehat.kemkes.go.id/pub/files/files46531_MATERI_KABKPK_SOS_SSGI.pdf
- SSGI. (2021). Buku Saku Hasil Studi Status Gizi Indonesia (SSGI) tingkat Nasional, Provinsi, dan Kabupaten/Kota tahun 2021. In *Angewandte Chemie International Edition*. Vol.6,No.11,p.951–952. <https://www.badankebijakan.kemkes.go.id/buku-saku-hasil-studi-status-gizi-indonesia-ssgi-tahun-2021/>
- Sutomo & Anggraini. (2010). Menu Sehat Alami Untuk Balita Dan Balita. Jakarta Selatan: Demedia

Welasih, B.D. & Wirjatmadi, B. (2012).

Beberapa faktor yang berhubungan dengan status gizi balita stunting.

The Indonesian Journal of Public Health. Vol. 8, No. 3, p. 99- 104.

[http://journal.unair.ac.id/download-](http://journal.unair.ac.id/download-fullpapers-)
[fullpapers-](http://journal.unair.ac.id/download-fullpapers-)

[2.%20Beberapa%20Faktor%20yang%20Berhubungan%20dengan.pdf](http://journal.unair.ac.id/download-fullpapers-2.%20Beberapa%20Faktor%20yang%20Berhubungan%20dengan.pdf)

WHO. (2017). Joint Child Malnutrition

Estimates 2017 Edition. Geneva.

[https://www.who.int/data/gho/data/](https://www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb)
[themes/topics/joint-child-](https://www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb)

[malnutrition-estimates-unicef-who-](https://www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb)
[wb](https://www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb)

WHO. (2020). Levels And Trends In Child

Malnutrition. Geneva.

[https://www.who.int/publications-](https://www.who.int/publications-detail-redirect/9789240025257)
[detail-redirect/9789240025257](https://www.who.int/publications-detail-redirect/9789240025257)

Yulnafia, & Sutia, M. (2022). Hubungan

Riwayat Penyakit Infeksi Dengan

Kejadian Stunting Pada Balita Usia

24-36 Bulan Di Wilayah Kerja

Puskesmas Tambang Kabupaten

Kampar. Jambi Medical Journal , Vol.

10, No. 1, p. 154-163.

<https://doi.org/10.22437/jmj.v10i1.104>

10