STUNTING FACTORS IN TODDLERS IN PEKANBARU CITY IN 2022

Yessi Azwar[1], Hamidah Sari[2]
Midwifery Study Program D III Pekanbaru Payung Negeri Health Institute

Abstract

Background: Stunting is one of the problems that hinder human development globally. Currently, there are around 162 million children under the age of five who are stunted. The national prevalence of stunting in Indonesia in 2022 is 21.6% and has decreased by 2.8 points from the previous year. In Riau Province, the prevalence of stunting in 2022 reached 23.5 and in Pekanbaru City, the prevalence of stunting in 2022 reached 11.4%. **Method:** This research is an analytical survey research with a case control approach and has been carried out in July 2022 in Pekanbaru City. The samples used in this study were 32 stunted toddlers and 32 normal toddlers. The sampling technique is carried out by simple random sampling. **Result :** This study showed that of 46 toddlers as many as 31.3% (n = 20) toddlers with incomplete immunization history, as many as 39.1% (n = 25) toddlers with infectious diseases suffered, as many as 46.9% (n = 30) maternal height was less. The results of statistical tests stated that there was a relationship (p = 0.002) between immunization history and stunting incidence in children under five and toddlers with incomplete immunization history had a 6.12 times chance of being stunted. There is a relationship (p = 0.021) between infectious diseases and the incidence of stunting in children under five and toddlers with infectious diseases suffered have a 3.40 times chance of being stunted. There was no relationship (p = 0.133) between maternal height and the incidence of stunting in children under five and toddlers with mothers whose height was less likely to be 2.14 times more likely to be stunted

Keywords : Stunting, nutritional status (PB/U), immunization history, infectious diseases, maternal height.

INTRODUCTION

Nutritional problems can increase infant and child mortality rates, causing sufferers to get sick easily and have a posture that is not optimal as an adult. The cognitive abilities of stunted children under five are also reduced, resulting in long-term economic losses for Indonesia. Indonesia is ranked fifth in the world for the number of children with stunting conditions after the first position occupied by India, following Nigeria, Pakistan and China in fourth position. More than one-third of children under the age of five in Indonesia are below average (Astuti, et al,.2017).

Stunting is one of the problems that hinder human development globally. Currently, there are around 162 million children under the age of five who are stunted. If this trend continues, it is projected that by 2025 127 million children under the age of five will be stunted (According to the United Nations Children's Emergency Fund (UNICEF), more than half of stunted children, or 56%, live in ASIA and more than a third or 37% live in Africa (WHO, 2018)

Indonesia is still experiencing problems in child nutrition and development. UNICEF says

around 80% of stunted children are found in 24 developing countries in Asia and Africa. Indonesia is the fifth country with the highest prevalence of stunted children after India, China, Nigeria and Pakistan. Currently, the prevalence of stunted children under 5 years old in South Asia is around 38% (Unicef, 2018). The national prevalence of stunting in Indonesia in 2022 is 21.6% and has decreased by 2.8 points from the previous year. In Riau Province, the prevalence of stunting in 2022 reached 23.5 and in Pekanbaru City, the prevalence of stunting in 2022 reached 11.4% (Kemenkes, 2022)

According to WHO, the prevalence of short toddlers becomes a public health concern if the prevalence is 20% or more. Although the incidence of stunting in North Kolaka District does not exceed 20%, intervention must still be received because stunting is a public health problem that can increase the risk of illness and death, late motor development and late mental growth (WHO, 2016). Immunization status in children is one indicator that contact with health services will help improve new nutritional problems, especially the incidence of stunting (Anisa, 2012).

Stunting can also occur as a consequence of repeated infections, thus worsening the nutritional status of children. The interaction between malnutrition and infection is a reciprocal state that affects each other (Setiawan, dkk., 2018). The problem of stunting is an intergenerational nutritional problem. Women who are stunted will give birth to babies with low birth weight. Children born to mothers and fathers with a height of less than 150 cm tend to give birth to more short babies (42.2%) than mothers and fathers of normal height (36%) (Larasati, 2018).

METHOD

This type of research is an analytical survey with case control design. This research is a research with primary and secondary data collection. The study was conducted in July 2022. The population in this study was all children under 24 - 49 months old who were active in Pekanbaru City. The case and control research samples each amounted to 32 toddlers, with a total sample of 64 toddlers. The presentation of data was done descriptively using univariate analysis, and bivariate analysis (Chi Square and Odds Ratio).

RESULTS AND DISCUSSION

1. Analisis Univariat

Gender	Short		Normal	
	n	%	n	%
Man	17	53,1	14	43,8
Woman	15	46,9	18	56,2
TOTAL	**32**	**100**	**32**	**100**

From the table above, it can be seen that most of the sex in the case sample was male (53.1%) and most of the sex in the control sample was female (56.3%).

Mother's Age	Short		Normal	
	n	%	n	%
16 – 18 th	0	0,0	1	3,1
19 – 29 th	14	43,7	15	46,9
30 – 49 th	18	56,3	16	50,0
Total	**32**	**100**	**32**	**100**

From the table above, it can be seen that most of the maternal age in the case sample was 30 – 49 years (56.2%) and most of the maternal age in the control sample was 30 – 49 years (50.0%).

Mother's Education	Short		Normal	
	n	%	n	%
SD	8	25,0	1	3,1
SMP	6	18,7	7	21,9
SMA	18	56,3	16	50,0
D3/S1	0	0,0	8	25,0
Total	**32**	**100**	**32**	**100**

From the table above shows that most of the maternal education in the case sample was SMA (56.3%) and most of the maternal education in the control sample was SMA (50.0%).

Mother's Work	Pendek		Normal	
	n	%	n	%
Civil Servants	0	0,0	5	15,6
Self employed	4	12,5	6	18,8
Merchant	3	9,4	4	12,4
Honorary	0	0,0	3	9,4
Housewives	25	78,1	14	43,8
Total	**32**	**100**	**32**	**100**

The table shows that most of the mothers' occupations in the case sample were IRT (78.1%) and most of the mothers' occupations in the control sample were Housewives (43.8%).

Immunization History	Short		Normal	
	n	%	n	%
Incomplete	17	53,1	5	15,6
Complete	15	46,9	27	84,4
Total	**32**	**100**	**32**	**100**

The table above shows that most of the immunization history in the case sample was incomplete (53.1%) and most of the immunization history in the control sample

was complete (84.4%).

Infectious Diseases	Short		Normal	
	n	%	n	%
Suffer	17	53,1	8	25,0
No Suffering	15	46,9	24	75,0
Total	**32**	**100**	**32**	**100**

The table shows that most of the infectious diseases in the case sample were Suffered (53.1%) and most of the infectious diseases in the control sample were No Suffered (75.0%).

Mother's height	Short		Normal	
	n	%	n	%
Short	12	37,5	11	34,4
Normal	20	62,5	21	65,6
Total	**32**	**100**	**32**	**100**

The table above shows that most of the height of mothers in the case sample was normal (62.5%) and most of the height of mothers in the control sample was normal (65.6%).

2. Bivariate Analysis

Immunization History	Stunting Events				Total	
	Short		Normal			
	n	%	n	%	n	%
Incomplete	17	53,1	5	15,6	22	34,4
Complete	15	46,9	27	84,4	42	65,6
Total	**32**	**100**	**32**	**100**	**64**	**100**
p= 0,002						
OR (95%CI) = 6,120 (3,400-0,556)						

The results of the chi-square test obtained a value of p = 0.002 which means that the p value is statistically meaningful and the results of the Odds Ratio test obtained by toddlers with incomplete immunization history have a 6.12-fold higher chance of being stunted.

This result is in line with research conducted by Gracia (2020) which explains that there is a relationship between immunization history and children's nutritional status.

Infectious Diseases	Stunting Events				Total	
	Short		Normal			
	n	%	n	%	n	%
Suffer	17	53,1	8	25,0	25	39,1
No Suffering	15	46,9	24	75,0	39	60,9
TOTAL	**32**	**100**	**32**	**100**	**64**	**100**
p= 0,021						
OR (95%CI) = 3,400 (2,125-0,625)						

The results of the chi-square test obtained a value of p = 0.021 which means that the value of p is statistically meaningful and the results of the Odds Ratio test obtained results of toddlers with infectious diseases suffering from have a 3.40-fold higher chance of being stunted.

These results have similarities with research conducted by Wenni, et al (2020) which explains that there is a relationship between infectious diseases and nutritional status in children under five. Infectious diseases greatly affect the nutritional status of children due to a decrease in appetite.

Mother's height	Stunting Events				Total	
	Short		Normal			
	n	%	n	%	n	%
Short	12	37,5	11	34,4	23	35,9
Normal	20	62,5	21	65,6	41	64,1
Total	**32**	**100**	**32**	**100**	**64**	**100**
p= 0,133						
OR (95%CI) = 2,142 (1,500-0,700)						

The results of the chi-square test obtained a value of p = 0.133 which means that the p value is statistically meaningless and the results of the Odds Ratio test obtained results of toddlers with short maternal height have a 2.142-fold higher likelihood of being stunted.

The results of this study are in line with Nur Hadibah (2019) which states that there is no significant relationship between maternal height and the incidence of stunting in toddlers aged 24-59 months in Maron sub-district, Probolinggo Regency (p = 0.704).

CONCLUSION

1. Immunization history was obtained in incomplete case samples as much as 53.1% and in complete control samples as much as 84.4%.
2. Obtained infectious diseases in the sample of cases suffered as much as 53.1%

and in control samples did not suffer as much as 75.0%.

3. The mother's height was obtained in the normal case sample as much as 62.5% and in the normal control sample as much as 65.6%.
4. There is a relationship (p = 0.002) between Immunization History and Stunting Incidence in Children Under Five and Toddlers with incomplete immunization history has a 6.12 times chance of being stunted.
5. There is a relationship (p = 0.021) between Infectious Diseases and the Incidence of Stunting in Children Under Five and Toddlers with Infectious Diseases suffered have a 3.40 times chance of being stunted.
6. There was no relationship (p = 0.133) between maternal height and the incidence of stunting in children under five and toddlers with mothers whose height was less likely to be 2.14 times more likely to be stunted

DAFTAR PUSTAKA

Achadi L. Endang. (2007). Gizi Dan Kesehatan Masyarakat. Departemen Gizi Dan Kesehatan Masyarakat.

Adriani dan Yustianingrum. 2017. Perbedaan Status Gizi dan Penyakit Infeksi Pada Anak Baduta Yang Diberi ASI Eksklusif dan Non ASI Eksklusif. Published online: 27-12-2017 doi: 10.20473/amnt.v1.i4.2017.415-423

Anisa, Paramitha. 2012. Faktor-faktor Yang Berhubungan dengan Kejadian Stunting pada Balita Usia 25-60 Bulan di Kelurahan Kalibaru Depok Tahun 2012. Universitas Indonesia.

Candra A., Puruhita N., Susanto J.C., 2011. Risk Factors of Stunting among 1-2 Years Old Children in Semarang City. M Med Indones, 45(3): 206-12.

Damanik SM, 2010. Klasifikasi Bayi Menurut Berat Lahir Dan Masa Gestasi. Dalam (Kosim Ms, Yunanto A, Dewi R, Sarosa Gi, Usman A) Buku Ajar Neonatologi Ed 1. Jakarta: Ikatan Dokter Anak Indonesia.

Depkes, RI. 2013. Peraturan Menteri Kesehatan Republik Indonesia Nomor 42 Tahun 2013 Tentang Penyelenggaraan Imunisasi. Jakarta: DepKes RI.

Depkes, RI. 2014. Imunisasi Untuk Masa Depan Lebih Sehat. Jakarta: DepKes RI.

Gracia NT. 2020. Hubungan Status Imunisasi Dengan Kejadian Stunting Pada Anak Usia 1 – 5 Tahun. Program Pendidikan Sarjana Kedokteran.

Haris, A., Adelina, F., & Kalsum, U. 2019. Determinan Kejadian Stunting Dan Underweight Pada Balita Suku Anak Dalam Di Desa Nyogan Kabupaten Muaro Jambi Tahun 2019. Fakultas Kesehatan Masyarakat Universitas Jambi.

Hidayat, A. A. 2008. Pengantar Ilmu Keperawatan Anak I. Jakarta: Salemba Medika.

Jesmin Aklima et al. 2011. Prevalence and Determinants of Chronic Malnutritionamong Preschool Children: A Cross-sectional Study in Dhaka City,Bangladesh. Journal of Health Population and Nutrition, vol 29, pp 494 - 499.

Kementerian Kesehatan RI. 2010. Riset Kesehatan Dasar Tahun 2010. Jakarta: Kemenkes RI.

Kementerian Kesehatan R.I. (2011). Keputusan Menteri Kesehatan Republik Indonesia Nomor 1995/MENKES/SK/XII/2010
tentang Standar Antropometri Penilaian Status Gizi Anak. Standar Antropometri Penilaian Status Gizi Anak.

Kemenkes RI. 2015. Buku Kesehatan Ibu Dan Anak. Jakarta: Kemenkes RI

Kementerian Kesehatan RI. 2020. Pedoman Pelaksanaan Teknis Surveilans Gizi. Jakarta : Kemenkes RI.

Moehji. 2003. Gizi Dalam Daur Kehidupan. Buku Kedokteran Egc: Jakarta

Muslihatun, WN. 2010. Asuhan Neonatus Bayi Dan Balita. Fitramaya, Yogyakarta

Muttaqin, Arif. 2008. Buku Ajar Asuhan Keperawatan Klien Dengan Gangguan. Sistem Imunologi. Jakarta: Salemba Medika.

Nadia Nabila Larasati. 2018. Faktor – Faktor Yang Berhubungan Dengan Kejadian Stunting Pada Balita Usia 25 – 59 Bulan Di Posyandu Wilayah Puskesmas Wonosari II Tahun 2017. Skripsi. Politeknik Kesehatan
Kementerian Kesehatan. Yogyakarta.

Notoatmodjo, S. 2007. Promosi Kesehatan dan Ilmu Perilaku. Jakarta., Rineka Cipta

Notoatmodjo, S. 2012. Metodologi
Penelitian Kesehatan. Jakarta: Rieneka Cipta

Novelinda Ch. Ratu, Maureen I. Punuh, Nancy S. H. Malonda. 2018. Hubungan Tinggi Badan Orangtua Dengan Kejadian Stunting Pada Anak Usia 24-59 Bulan Di Kecamatan Ratahan Kabupaten Minahasa Tenggara. Jurnal Kesmas, Volume 7 Nomor 4.

RISKESDAS. 2007. Riset Kesehatan Dasar 2007. Kementrian Kesehatan Republik Indonesia.

RISKESDAS. 2010. Laporan Riset Kesehatan Dasar 2010. Jakarta: Badan Penelitian dan Pengembangan Kesehatan.RISKESDAS. 2018. Riset Kesehatan Dasar 2018. Kementrian Kesehatan Republik Indonesia.

RPIJM. 2019. Rencana Program Investasi Jangka Menengah 2015-2019. Bidang Cipta Karya Kabupaten Kolaka Utara.

RPJMN. 2020. Rencana Pembangunan Jangka Menengah Nasional Tahun 2020 – 2024.

Sastroasmoro, S dan Ismail, S. 2011. Dasar-Dasar Metodologi Penelitian Klinis. Ed. 2. Jakarta: Sagung Seto

Sediaoetama. 2008. lmu Gizi Untuk Mahasiswa Dan Profesi. Jilid

1.Jakarta: Penerbit Dian Rakyat.
P. 245

Senbanjo, I., et al. 2011. Prevalence of and Risk factors for Stunting among School Children and Adolescents in Abeokuta, Southwest Nigeria. Journal of Health Population and Nutrition. 29(4):364-370.

Setiati. 2009. Proses Menua dan Implikasi Kliniknya. Buku Ajar Ilmu Penyakit Dalam.

Setiawan, E., Machmud, R., & Masrul, M. 2018. Faktor-Faktor yang Berhubungan dengan Kejadian Stunting pada Anak Usia 24 59 Bulan di Wilayah Kerja Puskesmas Andalas Kecamatan Padang Timur Kota Padang Tahun 2018. Jurnal Kesehatan Andalas. https://doi.org/10.25077/jka.v7i2. 813

Sibagariang. 2010. Gizi Dalam Kesehatan Reproduksi. SKM : Jakarta : Tim

Supariasa, Dkk. 2002. "Penilaian Status Gizi". Jakarta : Penerbit Buku. Kedokteran Egc

Sinha et al. 2018. Effects of lovastin, fosmidomycin and methyl jasmonate on andrographolide biosynthesis in the Andrographis paniculata. Acta Physiologiae Plantarum (2018) 40:165.

Sultan AT, dkk,. 2005. Faktor Sosial Ekonomi Yang Berhubungan Dengan Tingkat Asupan Zat Yodium Pada Ibu Hamil Di Daerah Endemik. Poltekkes Jurusan Gizi, UGM. Jogyakarta. Supariasa. 2002. Penilaian Status Gizi. Buku Kedokteran EGC. Jakarta.

Supartini, Y. 2004. Buku Ajar Konsep Dasar Keperawatan Anak Edisi I. Jakarta: Pustaka Utama

Swathma, D., Lestari, H., & Ardiansyah, T. 2016. Analisis Faktor Risiko Bblr, Panjang Badan Bayi Saat Lahir Dan Riwayat Imunisasi Dasar Terhadap Kejadian Stunting Pada Balita Usia 12-36 Bulan Di Wilayah Kerja Puskesmas Kandai Kota Kendari Tahun 2016. Fakultas Kesehatan Masyarakat Universitas Halu Oleo.

UNICEF. 1998. The State of The World's Children. Oxford University press.

WHO. The WHO Child Growth Standards. [Online]; 2016 (diunduh 20 Januari 2021). Tersedia dari: https://www.who.int/childgrowth/ en/

Zottarelli LK, Sunil TS, Rajaram S. (2014). Influence of Parental and Socioeconomics Factor son Stunting in Children Under 5 Years in Egypt. Eastern Mediterranean Health Journal. Terdapat dalam http://www.emro.who.int/emhj/13 06 diakses pada tanggal 2 Agustus 2021 pukul 14.30 WIB.