turnitin

TIC-322156 - The Effect of Stunting on The Development of Children Aged 2 – 6 Years Old in The City of Tegal.docx
Jan 12, 2022
2333 words / 12432 characters

TIC-322156 - The Effect of Stunting on The Development of Chil...

Sources Overview

46%

OVERALL SIMILARITY

1	eprints.poltektegal.ac.id INTERNET	19%
2	jnk.phb.ac.id INTERNET	5%
3	"1st Annual Conference of Midwifery", Walter de Gruyter GmbH, 2020 CROSSREF	4%
4	D M Azizah, E O Permatasari. " Modeling of toddler stunting in the province of east nusa tenggara using method ", Journal of Physics: C... CROSSREF	2%
5	Nitta Isdiany, Holil Par'i, Osman Syarief, Mamat Rahmat, Gurid Pramintarto Eko Mulyo. "Do Zinc Supplementation and Physical Exercise ... CROSSREF	2%
6	eprints.poltekkesjogja.ac.id INTERNET	1%
7	journal.ppnijateng.org INTERNET	1%
8	ejournal.aibpm.org INTERNET	1%
9	sjdgge.ppj.unp.ac.id INTERNET	<1%
10	bircu-journal.com INTERNET	<1%
11	eujournal.org INTERNET	<1%
12	Rissa Widyasworo Hartanti, Lina Handayani. "PRE-OPERATIVE EDUCATION TO REDUCE ANXIETY: LITERATURE REVIEW", Epidemiolog... CROSSREF	<1%
13	jurnal.ugm.ac.id INTERNET	<1%
14	www.thieme-connect.com INTERNET	<1%
15	Narges Mohamadi Parsa, Abbas Mohamadi, Fatemeh Einabadi. "Can Mother's Depression Affect Infant's Development?", Iranian Jour... CROSSREF	<1%
16	Agung Sutriyawan, Ratna Dian Kurniawati, Ricky Hanjani, Sri Rahayu. "PREVALENSI STUNTING DAN HUBUNGANNYA DENGAN SOSIAL... CROSSREF	<1%

17	thejnp.org INTERNET	<1%
18	Putu Candriasih, Metrys Ndama, Anna Veronica Pont. "Specific and Sensitive Nutrition Interventions with Nutritional Status of Toddler... CROSSREF	<1%
	Preprint source	
19	Tri Bayu Purnama, Syafran Arrazy, Grace Wangge. "A multi-level qualitative analysis of sensitive-intervention stunting program: from re... CROSSREF POSTED CONTENT	<1%
20	repository-tnmgrmu.ac.in INTERNET	<1%
21	N. M. Dubrovskaya, I. A. Zhuravin. "Ontogenetic Characteristics of Behavior in Rats Subjected to Hypoxia on Day 14 or Day 18 of Embr... CROSSREF	<1%
22	Risa Nurhayati, Rahayu Budi Utami, Ana Amelia Irawan. "Health Education about Stunting Nutrition in Mothers to Weight Stunting Chil... CROSSREF	<1%
23	digilib.unila.ac.id INTERNET	<1%
24	Amiruddin Amiruddin, Bustami Bustami, Anasril Anasril, Tri Mulyono Herlambang, Muhammad Husaini, Sri Gustini. "Phenomenology S... CROSSREF	<1%
25	Dina Fitriana Rosyada, Marko Ferdian Salim, M. Syairaji. "Perception of Prevention Stunting Through Healthy Lifestyle in Adolescent Gi... CROSSREF	<1%
26	Universitas Sumatera Utara on 2020-12-30 SUBMITTED WORKS	<1%
27	Abilene Christian University on 2016-04-10 SUBMITTED WORKS	<1%
28	Candra Dewi Nataningtyas, Dian Kumalasari. "The Effects of Stunting And Psychosocial Stimulus On The Development of Children Bet... CROSSREF	<1%

Excluded search repositories:

None

Excluded from document:

Bibliography

Quotes

Excluded sources:

None

The Effect of Stunting on The Development of Children Aged 2 – 6 Years Old in The City of Tegal

N Izah, Umriaty, N Rahmanidar, SN Hidayah

Midwifery Diploma Program, Politeknik Harapan Bersama, 9 Mataram Street, Tegal City, Indonesia

Abstract

Lack of nutrition in children can cause a child to experience various growth disorders, such as wasting and stunting. Stunting experienced by children can be caused by not being exposed to the 1000 HPK period or the First Day of Life by special attention that determines a person's level of physical growth, intelligence, and productivity in the future. Motor movements in children cannot be done properly if the level of muscle maturity has not developed. In children who experience stunting, the mechanical ability of striped muscle is low, because the level of muscle maturity is slow, causing motor skills in children to be hampered. The purpose of this study was to determine the effect of stunting on the development of children aged 2-6 years. The research was conducted in Panggung Village, Tegal City, the number of respondents in this study were 15 children in the case group and 15 children in the control group. The results showed that there was an effect between stunting and the development of children aged 2-6 months with a p value of 0.02.

Keywords : *Stunting, Child development*

1. Introduction

Lack of nutrition in children can cause a child to experience various growth disorders, such as *wasting* and *stunting* . *Stunting* is a condition where toddlers have a length or height that is less than their age. This condition is measured by a length or height that is more than minus two standard deviations of the WHO child growth standard median. Under-five stunting is a chronic nutritional problem caused by many factors such as socioeconomic conditions, maternal nutrition during pregnancy, infant morbidity, and lack of nutritional intake for infants. In the future, stunting children will experience difficulties in achieving optimal physical and cognitive development[1].

Stunting is a condition of failure to thrive in children under five years old, which is the result of chronic malnutrition so that the child is too short for his age. Malnutrition occurs since the baby is still in the mother's womb and in the early days after the baby is born, but *stunting* conditions only appear after the baby is approximately 2 years old[2].

Stunting experienced by children can be caused by not being exposed to the 1000 HPK period or the First Day of Life by special attention that determines a person's level of physical growth, intelligence, and productivity in the future. *Stunting* can also be caused because parents miss the *golden age period* , which starts from 1000 HPK, which is the formation of children's growth and development. At that time, the nutrients that babies receive while in the womb and receive exclusive breastfeeding, have a long-term impact on children's lives when they grow up. If this can be exceeded properly, it will avoid *stunting* in toddlers and poor nutritional status[3].

Stunting can be said as a condition of children who experience chronic malnutrition which can be related to the development of the child's brain. Caused by a delay in the maturation of nerve cells in the motor coordination center, which is located in the cerebellum (small brain). The delay in maturation of nerve cells is influenced by the number *of cortical dendrites* , *myelin* in the *spinal cord* , and reduction *of neurotransmitter synapses* (Udani, 1992). In addition, *stunting* has a relationship with low maturity of muscle function which causes a decrease in the mechanical ability

of the triceps muscle, thereby causing disruption of children's motor development (Solihin, 2013). Motor movements in children cannot be done properly if the level of muscle maturity has not developed. In children who experience stunting, the mechanical ability of *striped muscle is* low, because the level of muscle maturity is slow, causing motor skills in children to be hampered (Hurlock, 2001). This delay can be influenced by various factors, namely heredity, environment, child's personality, muscle disorders, and obesity[4].

Motor development of children is divided into two, namely fine motor and gross motor. Fine motor skills are smooth movements that occur by involving certain parts that are carried out with small muscles, because they do not require a lot of energy but require careful coordination[4]. Included in the fine motor skills are doodling on paper, arranging blocks, drawing straight lines, drawing circles, choosing a longer line drawing, and drawing a plus sign according to age. Then, gross motor skills are defined as body movements in moving the muscles in part or all of the limbs that can be influenced by the maturity of the child himself[3]. Gross motor skills are meant here, such as throwing a ball, jumping over a paper, pedaling a tricycle, standing on one leg, and jumping on one leg according to age[5].

Previous research conducted in Sleman Regency, Yogyakarta in children aged 12-60 months, with a sample of 106 children showed the results that there was a significant relationship between stunting and children's motor development, namely with an OR value of 3.9 which has meaning between the development of suspected children. the possibility of children with *stunting* is 3.9 times greater than children with normal development[6].

Research conducted in Aceh on kindergarten children aged 3-5 years showed that there was a relationship between stunting and gross motor development. It was found that children who experienced delays in gross motor development were more common in children who were *stunted* by 73% compared to children who were not *stunted* by 30.6% (Hudaini, 2011). Another study conducted in the North Coastal area of Cirebon City also had similar results, namely there was a significant relationship between *stunting* and fine motor skills (p value <0.01), and there was a relationship between *stunting* and gross motor skills (p value <0.01). This study was conducted on 166 children with an age range of 12-60 months[7].

Abnormal developmental delays in children can be characterized by slow maturation of nerve cells, social responses, motor movements, and a lack of intelligence in children (Yuliana, 2004). In the last few years, there has been an increase in the incidence of child delays in terms of motor skills, language, behavior, and autism in the United States 12-16%, Argentina 22%, Thailand 24%, and Indonesia 13-18%[8]. The results of a survey conducted in 2006, it is known that at least 16% of toddlers or children under five years in Indonesia experience delays in nerve and brain development ranging from severe to mild[3].

Nursadiyah (2010) explains that every 2 out of 1,000 babies born experience motor development delays. The incidence of *stunting* under five is a nutritional problem experienced by toddlers in the world today. In 2017 there were 22.2% or around 150.8 million children under five in the world who experienced *stunting* . In 2017 it was also known that more than half of *stunted* children under five came from Asia (55%), while more than a third (39%) were in Africa. The number of *stunting* children under five in Asia is 83.86 million, and those who receive the highest proportion are from South Asia (58.7%) and the lowest proportion is in Central Asia (0.9%).

Based on the Nutrition Status Monitoring (PSG) data for the last three years, *stunting* or *stunted* toddlers have a higher prevalence than other nutritional problems, such as undernourishment, thinness, and obesity. The prevalence of stunted toddlers has increased from 2016 which was 27.5% to 29.6% in 2017 (Ministry of Health of the Republic of Indonesia, 2018).

The prevalence of *stunting* in Indonesia is still high. Based on the Basic Health Research (Riskesdas) in 2018, the prevalence of *stunting* in Indonesia in 2018 was 30.8%, this figure is still very far from the WHO minimum maximum target of 14%. The prevalence of *stunting* in Central Java is quite high at 31.22%. Tegal City is one of the cities in Central

Java which still has a high number of *stunting* toddlers , namely 830 children aged 0-5 years[9]

The novelty in this study is that there are many theories which state that stunting will affect the growth and development process of toddlers, whether it will also affect toddlers in the Tegal Timur Village area. . The purpose of this study was to determine the effect of *stunting* on the development of children aged 2-6 years

2. Methods

This research is a quantitative study with a *cross sectional* research design , the population in this study is children aged 2-6 years who experience *stunting* . The sample used using a total sampling technique as many as 30 respondents consisting of 15 respondents for the case group and 15 respondents for the control group.

3. Results and Discussion

Table 1. Frequency distribution of nutritional status of children under five

Toddler Nutritional Status	f(%)
Stunting	15 (50%)
Normal	15 (50%)
Total	100%)

Table 1 shows that 50% of respondents are stunted and 50% are normal.

Table 2. Distribution of the frequency of mothers' occupations

Mother's Job	f(%)
Work	11 (26.7%)
Does not work	19 (63.3%)
Total	30 100%)

From Table 2 above, it can be seen that most of the respondents' mothers do not work, namely 19 respondents (63.3%).

Table 3. Distribution of mother's education frequency

Mother's Education	f(%)
Base	4 (13.3%)
Intermediate	26 (86.7%)
Tall	0 (0%)
Total	30 100%)

From Table 3 above, it can be seen that most of the respondents have secondary education, namely 26 respondents (86.7%).

Table 4. Distribution of the frequency of child development

Child development	f(%)
Normal	10 (33.3%)
Abnormal	20 (66.7%)
Total	30 (100%)

From Table 4 above, it can be seen that most of the respondents have abnormal development, namely 20 respondents (66.7%).

Table 5. The Effect of Stunting on Child Development

Nutritional status	Development		Total	p Nilai value
	Normal	Abnormal		
Stunting	2 (13.3%)	13 (86.7%)	15 (50%)	0.02
Normal	8 (53.3%)	7 (34.8%)	15 (50%)	
Total	10 (33.3%)	20 (66.7%)	30 (100%)	

Description:
The p value was obtained by using the *Chi Square* test analysis ,
*Meaningful difference if $p < 0.05$, **very significant if $p < 0.01$

Table 5 shows that there is an effect between stunting and the development of children aged 2-6 months with a p value of 0.02.

The results of this study are in line with research conducted in Sleman Regency, Yogyakarta in children aged 12-60 months, with a sample of 106 children showing the results that there is a significant relationship between *stunting* and children's motor development, namely with an OR value of 3.9 which has a meaning between the development of children who suspect the possibility of children with *stunting* is 3.9 times greater than that of children whose development is normal[6].

Likewise, research conducted in Aceh on kindergarten children aged 3-5 years showed that there was a relationship between stunting and gross motor development. It was found that children who experienced delays in gross motor development were more common in children who were stunted by 73% compared to children who were not stunted by 30.6%[4]. Another study conducted in the North Coastal area of Cirebon City also had similar results, namely there was a significant relationship between stunting and fine motor skills (p value <0.01), and there was a relationship between stunting and gross motor skills (p value <0.01). This study was conducted on 166 children with an age range of 12-60 months[7].

This research is also in line with research conducted by Yadika (2019), namely research on the effect of *stunting* on cognitive development and learning achievement. The review is carried out by looking for appropriate references. Based on the review, it was found that there was an effect of *stunting* on cognitive development and learning achievement. In *stunting* conditions, there can be disturbances in the maturation process of brain neurons and changes in brain structure and function that can cause permanent damage to cognitive development . This condition causes children's thinking and learning abilities to be disrupted and ultimately reduces the level of attendance and learning achievement. Thus it can be concluded that there is an effect of *stunting* on cognitive and intelligence development.

4. Conclusion

The nutritional status of the respondents is 50% *stunting* and 50% normal, most of the respondents have abnormal development, namely as many as 20 children (66.7%), there is an influence between *stunting* and the development of children aged *2-6* years with p value of 0.02.

5. Acknowledgments

Thank you to Harapan Bersama Polytechnic for supporting this research. Thanks are also conveyed to respondents in Tegal Regency who are willing to be respondents in this study.

6. References

[1] Kementerian Kesehatan RI, *Buletin Jendela Data dan Informasi Kesehatan*. Jakarta: Pusat Data dan Informasi, 2018.

[2] Tim Nasional Percepatan Penanggulangan Kemiskinan, *100 Kabupaten/Kota Prioritas untuk*

Intervensi Anak Kerdil (Stunting). 2017.

[3] M. Fikriyati, *Perkembangan Anak Usia Emas (Golden Age)*. Yogyakarta: Laras Medika, 2015.

[4] M. G. Pantaleon, H. Hadi, and I. L. Gamayanti, "Stunting berhubungan dengan perkembangan motorik anak di Kecamatan Sedayu, Bantul, Yogyakarta," *J. Gizi dan Diet. Indones.*, vol. 3, no. 1, pp. 10–21, 2015, [Online]. Available: https://ejournal.almaata.ac.id/index.php/IJND/article/view/301.

[5] M. Hidayati, "PENINGKATAN KEMAMPUAN MOTORIK KASAR ANAK MELALUI PERMAINAN BAKIAK," *J. Pendidik. Usia Dini*, vol. 7, no. 1, pp. 195–200, 2013, [Online]. Available: https://www.neliti.com/id/publications/117598/peningkatan-kemampuan-motorik-kasar-anak-melalui-permainan-bakiak.

[6] H. Probosiwi, E. Huriyati, and D. Ismail, "Stunting dan perkembangan pada anak usia 12-60 bulan di Kalasan," *Ber. Kedokt. Masy.*, vol. 33, no. 11, pp. 559–564, 2017, [Online]. Available: https://jurnal.ugm.ac.id/bkm/article/view/26550.

[7] A. Hizni, M. Julia, and I. L. Gamayanti, "Status stunted dan hubungannya dengan perkembangan anak balita di wilayah pesisir Pantai Utara Kecamatan Lemahwungkuk Kota Cirebon," *J. Gizi Klin. Indones.*, vol. 6, no. 3, pp. 131–137, 2010, [Online]. Available: https://jurnal.ugm.ac.id/jgki/article/view/17721.

[8] N. Izah, E. Zulfiana, and N. Rahmanindar, "ANALISIS SEBARAN DAN DETERMINAN STUNTING PADA BALITA BERDASARKAN POLA ASUH (STATUS IMUNISASI DAN PEMBERIAN ASI EKSKLUSIF)," *J. Ilmu Keperawatan dan Kebidanan*, vol. 11, no. 1, pp. 27–31, 2020, [Online]. Available: https://ejr.stikesmuhkudus.ac.id/index.php/jikk/article/view/764.

[9] Kementerian Kesehatan RI, *Hasil Utama Riskesdas 2018*. 2018.