JURNAL SOSAINS

JURNAL SOSIAL DAN SAINS

VOLUME 3 NOMOR 12 2023
P-ISSN 2774-7018, E-ISSN 2774-700X

THE RELATIONSHIP OF EARLY PROVIDING MPASI AND RECURRENT INFECTIONAL DISEASES WITH STUNTING INCIDENTS IN CHILDREN AGED 1-5 YEARS IN THE LAWAHING PUBLIC HEALTH CARE WORKING AREA

Nurhayati Fitria Amin, Gadis Meinar Sari, Astika Gita Ningrum
Airlangga University, Indonesia
Email: nurhayati.fitria.amin-2022@fk.unair.ac.id, gadism@fk.unair.ac.id, astikagitan@fkunair.ac.id

Keywords:
Stunting, infectious diseases, complementary feeding, Early MPASI

ABSTRACT

Background: Stunting which is a condition where there is failure to thrive in children under five years old (under five years) caused by chronic malnutrition so that the child is too short for his age. Providing complementary breast milk too early (less than 4 months) is an indirect factor causing stunting where early complementary breast milk food can cause various kinds of infectious diseases in children

Purpose: to determine the relationship between giving early MPASI and recurrent infectious diseases to the incidence of stunting in children aged 1-5 years in the working area of the Lawahing Health Centre, Alor Regency, NTT

Method: This research is an observational analytical study with a cross sectional approach. The sample from this study was 214 children aged 1-5 years who met the inclusion and exclusion criteria.

Results: : research shows that there is a significant relationship between early complementary feeding and recurrent infectious diseases and the incidence of stunting in children aged 1-5 years (p value: <0.01).

Conclusion: there is a significant relationship between early complementary feeding and recurrent infectious diseases with the incidence of stunting in children aged 1-5 years in the working area of the Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara.

INTRODUCTION

Babies are the stages of human development from 29 days to 12 months (WHO, 2014). During this growth period, babies really need proper nutrition for their growth and development, one of which is exclusive breastfeeding and appropriate complementary foods. Exclusive breastfeeding is only 52.5% or half of the 2.3 million babies aged less than 6 months do not receive exclusive breastfeeding. This figure has decreased by 12% from the figure in 2019. East Nusa Tenggara Province, the success rate for exclusive

breastfeeding is only 57.8% (Kementerian Kesehatan RI., 2021). Babies aged less than 4 months who do not receive exclusive breast milk and who already receive complementary breast milk food in the form of solid food is 43.2%. Lawahing Community Health Centre with a total of 458 children aged 1-5 years, only 30% receive exclusive breast milk from their mothers, and the other 70% have been given complementary foods since the age of 3 months. 15.5% of children who are given early complementary foods at posyandu every month have difficulty gaining weight, height and are susceptible to infectious diseases (Dany et al., 2020).

Early complementary food is giving babies additional food other than breast milk before the age of 4 months. According to the guidelines of the Indonesian Paediatrician Association, complementary foods should be given at the age of 6 months, but if breast milk is insufficient, complementary foods can be given as early as 4 months (17 weeks) (Lenja, Demissie, Yohannes, & Yohannis, 2016). The signs that a baby is ready to be fed are that he can hold his head upright, sit without help, his tongue sticking out reflex is reduced and he is interested when he sees people eating. Providing complementary foods for breast milk under 4 months of age can indirectly cause stunting which is a condition where there is failure to thrive in children under five (under five years) caused by chronic malnutrition so that the child is too short for his age (Octaviana, Roslina, Trianingsih, Marlina, & Indrasari, 2023). The condition of the baby's organs not being ready to receive solid food other than breast milk can cause various health problems in the baby. Providing solid food to babies aged less than 4 months will result in various kinds of health problems, including the baby not having the right to receive exclusive breast milk and not getting complete nutrition in breast milk, being susceptible to disease, the risk of diarrhoea, problems with the baby's intestines and kidneys, the risk of obesity, the risk of allergies, and the risk of malnutrition and resulting in stunting (Fadillah, Delima, Rahmadhani, Haruna, & Manda, 2022). Based on the results of previous research in the Rowosari Semarang Community Health Centre area, a significant relationship was found between early complementary breastfeeding and the incidence of stunting (Pangestuti, Khomsan, & Ekayanti, 2023)

Infectious diseases are diseases caused by pathogenic microbes and are very dynamic (WHO). NTT Health Profile in 2021 data on diarrhoea in children aged 1-5 years in 2019 there were 66.5 cases, in 2020 54,260 cases and in 2021 it decreased to 4,603 cases(1). ISPA cases in children aged 1-5 years in East Nusa Tenggara Province: 5137 (18.6%), 2020: 2779 (1%), 2021: 2115 (0.37%) cases, Lawahing Health Centre morbidity data for children aged 1-5 years as of August 2022 is 17.75%(2)with diarrhea, ARI, worms, eczema, etc.

Stunting Can be prevented through feeding babies which is focused on the first 1000 days of life (Kemenkes, 2017). Based on research results, optimal feeding can prevent deaths in children under five by around 13% (Organization, 2009). Feeding babies aged 0-4 months is sufficient with breast milk without any additions (exclusive breast milk). Starting from the age of 4 months, complementary foods can be given to breast milk while still assessing the baby's promotor readiness to receive solid food. Based on the results of previous research, there is a significant relationship between giving early MPASI and

stunting (Pangestuti et al., 2023). WHO stunting data in 2020 globally, 149.2 million children under the age of 5 were stunted, 454 million were underweight and 38.9 million were overweight. The prevalence of stunting in Indonesia in 2021 is 24.4% / 5.37 million children under five with 2.5% very short children and 7.0% short children. The province with the highest percentage of short and very short children is West Sulawesi, while the province with the lowest percentage of very short and stunted toddlers is North Sulawesi, East Nusa Tenggara Province is in second place with very short toddlers at 5.5% and stunted toddlers at 15.7% (Kementerian Kesehatan RI., 2021). Alor Regency is in third place with stunting of 11.7% of children under five, 7.5% of children under five are short and 10.5% of children under five are very short, Lawahing Community Health Centre data for stunting of children under five is 58.8%, children under five are very short 0 .59% and short toddlers 11.04% (Dany et al., 2020). This figure still needs to be reduced to reach the 2024 national stunting standard, namely 14%.

METHOD

This type of research uses an observational research design with a cross-sectional approach (Setia, 2016). The population is 458 children aged 1-5 years in 3 villages in the working area of the Lawahing Health Centre, Alor Regency, East of Nusa Tenggara. The sample in this research is 214 children aged 1-5 years to the inclusion criteria in this study were all children aged 1-5 years in the work area of the Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara, mothers who were physically and mentally healthy, mothers who were willing to be respondents. Exclusion criteria are children aged 1-5 years with genetic disorders or congenital diseases. The samples in this research used random sampling and the analysis used chi-square test and multivariate analysis with the logistic regression test.

RESULT AND DISCUSSION

Frequency distribution of respondents' demographics

Table 1 Frequency distribution of respondents' demographics

Characteristics	Category	Number (n)	Percentage (%)
Mother's Age	< 20 Years	15	5.7%
	21 – 34 Years	135	50.9%
	> 35 Years	64	24.2%
Father's Age	< 20 Years	24	
	21-34 Years	101	47.2%
	> 34 Years	89	41.6%
Mother's Education	elementary school	118	55.14%
	junior high school	69	32.24%
	high school	23	10.75%
	PT	4	1.87%
Father's Education	elementary school	80	
	junior high school	76	35.5%
	high school	41	19.2%
	PT	17	7.9%
Mother's Job	Work	62	29.0%
	Doesn't work	152	71.0%

Characteristics	Category	Number (n)	Percentage (%)
Father's occupation	Work	214	100%
	Doesn't work	0	0
Child Age	12-24 Months	79	36.9%

Based on Table 1, it shows that the highest age of mothers is in the group age 21-34 years (50.9%), the highest level of education of mothers is elementary school (55.14%), the mothers number who doesnt work is greater (71.0%) of working mothers, the largest number of children are aged 12-24 months (36.9%) and the smallest number are children aged 49-60 months (14.0%), the largest gender is girls (50.5%), the birth order of most children is > 3 (42.5%).

The relationship between giving early MPASI and the incidence of stunting in children aged 1-5 years in the working area of Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara.

Table 2: The relationship between giving early MPASI and the incidence of stunting in children aged 1-5 years in the working area of Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara.

Early provision of MPASI	***Stunting***				**Total**	
	Normal		***Stunting***			
	f	%	f	%	f	%
Yes	11	5.1%	132	61.7%	143	62.1%
No	70	32.7%	1	0.5%	71	37.9%
Total					214	100%
P value: <0.01						

Based on statistical analysis tests using the Chi-Square test, it was found that the p value was: <0.01, which means there is a significant relationship between giving early MPASI and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing health Centre, Alor district, East Nusa Tenggara.

The relationship between recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara

Table 3. The Relationship between recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara

Recurrent infectious disease	*Stunting*				Total	
	Normal		*Stunting*			
	f	%	f	%	f	%
Yes	5	2.3%	125	54.8%	130	60.7%
No	76	35.5%	8	3.7%	84	39.3%
Total					214	100%
P value: <0.01						

Based on statistical analysis tests using the Chi-Square test, it was found that the p value was: <0.01, which means there is a significant relationship between recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing health Centre, Alor district, NTT.

The relationship between early complementary feeding and recurrent infectious diseases with the incidence of stunting in children aged 1-5 years in the work area Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara

Table 4. The relationship between early complementary feeding and recurrent infectious diseases with the incidence of stunting in children aged 1-5 years in the work area Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara

Variable	p-value	OR	CI 95%	
			Lower	*Upper*
Early provision of MPASI	,000	,002	,000	.021
Recurrent Infectious Diseases	,000	.026	,005	.133

Using the regression test, the following results were obtained to the variable giving early MPASI and recurrent infectious diseases has a p value: <0.01, which means there is a significant relationship between giving early MPASI and recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing Community Health Centre, Alor Regency, East of Nusa Tenggara.

Relationship between Early MPASI Provision and Stunting Incidents in Children Aged 1-5 Years in the Lawahing Community Health Centre Working Area, Alor Regency, East Nusa Tenggara

The results of research conducted by researchers using bivariate analysis with the chi square test showed a significant relationship (p value: <0.01) between early complementary feeding and the incidence of stunting in children aged 1-5 years in the Lawahing Community Health Centre working area. Alor district, East Nusa Tenggara. The habit of feeding children aged less than 4 months in the Lawahing Community Health Centre working area has become a tradition passed down from generation to generation. Children who cry are considered hungry and are immediately given food. This has become a community habit and has been applied to previous children. The environment and family are also the main supporting factors in providing early complementary foods for breast milk. Children are given complementary foods in the form of mashed bananas and strained porridge. This practice of providing food also does not pay attention to the cleanliness of the tools and food ingredients used because access to clean water is difficult in this area. The large number of working mothers also means that children are often left behind, they do not get enough breast milk and the children are looked after by grandmothers or family, this is what indirectly results in children aged 1-5 years suffering from stunting.

Based on the latest recommendations from the Indonesian Paediatrician Association and national nutritionists, children can be fed after the age of 4 months provided that the child has been breastfed properly and correctly but there is no increase in weight/height, the baby has shown signs of being ready. eating, able to control his head upright, able to sit upright on his own, reduced tongue sticking out reflex. This is in line with the research conducted shows that there is a relationship between a history of breastfeeding and the incidence of stunting. This is because the mother or grandmother who is caring for her thinks that the baby is crying all the time because he is hungry. Apart from that, there were also 7 children (46.7%) who received MPASI for ≥ 6 months but experienced stunting, this was also caused by the behaviour of mothers who often persuaded their children with snacks or snacks so that they would be left to work so that children would consume more often. light foods rather than heavy foods such as porridge and others that fulfill children's balanced nutrition. Research conducted Rosita, (2021)showed the results that the age of toddlers when they first received complementary foods for breast milk had a significant

relationship with stunting status in toddlers with a correlation of -0.182, meaning that the more appropriate the age at which complementary foods were given to toddlers, the lower the risk of stunting.

The Relationship between Recurrent Infectious Diseases and the Incident of Stunting in Children Aged 1-5 Years in the Work Area of the Lawahing Community Health Centre, Alor Regency, East Nusa Tenggara

The results of research conducted by researchers using bivariate analysis with the chi square test showed a significant relationship (p value: <0.01) between recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing Community Health Centre, Alor Regency. East Nusa Tenggara. Children aged 1-5 years in the Lawahing Community Health Centre working area are susceptible to infectious diseases including ISPA, diarrhoea, worms and eczema or skin allergies. On average, this infectious disease is found in children aged 4 months and over. With a frequency of more than 6 times in 6 months. The geographic location of the region is mountainous with difficult access to clean water, where only rainwater is used which is collected in Viber tubs and then used throughout the dry season to the rainy season. Nutritional intake obtained from fish, meat and fresh vegetables is also difficult for people to obtain. Due to economic factors and a geographical location that is difficult to reach, the history of mothers during pregnancy is that many suffer from CED and anaemia, which is one of the factors that make children vulnerable to disease and at risk of stunting, but researchers did not research this due to limited time. .

This research is in line with the research results Wulandari, Rahayu, Darmawansyah, & Akbar, (2023) This shows that there is a relationship between a history of infectious disease and the incidence of stunting in the working area of the Kerkap Community Health Centre, North Bengkulu district with a value of (p=0.000). Based on the results of research conducted by Mishra & Bera, (2023) shows that infectious diseases are also a factor that influences stunting in Cambodia, Myanmar, Indonesia, Laos, Thailand, and Malaysia. Research conducted by (Mentari & Hermansyah, 2019). The results of the study showed that there was a relationship between infection (p = 0.004) and the stunting status of children aged 24-59 months.

The Relationship between Early MPASI Provision and Recurrent Infectious Diseases with the Incident of Stunting in Children Aged 1-5 Years in the Lawahing Community Health Centre Working Area, Alor Regency, East of Nusa Tenggara

The results of the research conducted by researchers were analysed using multivariate analysis with regression tests and found a significant relationship (p value: <0.01) between early complementary feeding and recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the region. work at the Lawahing Community Health Centre, Alor Regency, NTT. The practice of giving early MPASI has been carried out since ancient times, generally starting from the previous child and this is common in society. A crying baby is considered hungry, this is what encourages the mother or family to give MPASI too early. Giving early MPASI generally receives support from the family without knowing the risks to the baby. Mothers who give MPASI early tend not to routinely give breast milk to their babies for various reasons. This practice of providing MPASI is also carried out without prioritizing hygiene factors, the environment and difficult access to clean water being one of the causes. These children then tend to experience illnesses such as acute respiratory infections, diarrhoea, worms, and other infectious diseases so that ultimately their growth and development process, both physical and cognitive, is disrupted.

In line with research (Fufa, 2022). Which says that children who are given MPASI too early can cause infectious diseases such as diarrhoea, acute respiratory infections, and worms so that children experience stunting (resulting in children not growing according to their age, experiencing delays in thinking, and not focusing at school.

According to a journal published in the Aceh Nutrition Journal, early MPASI does not have a direct relationship with stunting, but giving MPASI too quickly (> 4 months) makes babies susceptible to diarrhoea and digestive tract infections. If this is frequently experienced by children, it will result in disruption to growth and development and increases the risk of stunting.

CONCLUSION

The conclusions of this research are There is a relationship between early complementary breastfeeding and the incidence of stunting in children aged 1-5 years in the work area of the Lawahing Health Centre, Alor Regency, East Nusa Tenggara. There is a relationship between recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the work area of the health centre. Lawahing, Alor district, East Nusa Tenggara, there is a relationship between early MPASI and recurrent infectious diseases and the incidence of stunting in children aged 1-5 years in the working area of the Lawahing health centre, Alor district, NTT. Parents must understand the risks of giving children complementary foods with early breast milk, both long term and short term, so that the child becomes healthy and is not disturbed in the process of growth and development.

REFERENCES

Dany, Frans, Dewi, Rita Marleta, Tjandrarini, Dwi Hapsari, Pradono, Julianty, Delima, Delima, Sariadji, Kambang, Handayani, Sarwo, & Kusumawardani, Nunik. (2020). Urban-rural distinction of potential determinants for prediabetes in Indonesian population aged≥ 15 years: a cross-sectional analysis of Indonesian Basic Health Research 2018 among normoglycemic and prediabetic individuals. *BMC Public Health*, *20*(1), 1–9.

Fadillah, Nur Alda, Delima, Andi Alifia Ayu, Rahmadhani, Rauly, Haruna, Nadyah, & Manda, Ibrahim. (2022). Analisis Faktor Risiko Kejadian Stunting pada Balita Usia 6 Bulan–23 Bulan di Puskesmas Pekkae Kecamatan Tanete Rilau Kabupaten Barru Tahun 2020. *Al-Igra Medical Journal*, *5*(2), 84–96.

Fufa, Dinaol Abdissa. (2022). Determinants of stunting in children under five years in dibate district of Ethiopia: A case-control study. *Human Nutrition & Metabolism*, *30*, 200162.

Kemenkes, R. I. (2017). Profil Penyakit Tidak Menular Tahun 2016. *Jakarta: Kementerian Kesehatan RI*.

Kementerian Kesehatan RI. (2021). *Health Profile 2021*. Retrieved from https://www.scribd.com/document/632401475/Health-Profile-2021-Indonesia-pdf

Lenja, Ayele, Demissie, Tsegaye, Yohannes, Bereket, & Yohannis, Mulugeta. (2016). Determinants of exclusive breastfeeding practice to infants aged less than six months in Offa district, Southern Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, *11*, 1–7.

Mentari, Suharmianti, & Hermansyah, Agus. (2019). Faktor-faktor yang berhubungan dengan status stunting anak usia 24-59 bulan di wilayah kerja UPK puskesmas Siantan Hulu. *Pontianak Nutrition Journal (PNJ)*, *1*(1), 1–5.

Mishra, Raman, & Bera, Subhasis. (2023). Geospatial and environmental determinants of stunting, wasting, and underweight: Empirical evidence from rural South and

Southeast Asia. *Nutrition*, 112346.

Octaviana, Amrina, Roslina, Roslina, Trianingsih, Indah, Marlina, Marlina, & Indrasari, Nelly. (2023). Dominant Factors in Complementary Food Feeding in Babies and Toddlers. *Jurnal Kesehatan*, *14*(3), 441–453.

Organization, World Health. (2009). *Global tuberculosis control: epidemiology, strategy, financing: WHO report 2009*. World Health Organization.

Pangestuti, Meitriana, Khomsan, Ali, & Ekayanti, Ikeu. (2023). Determinants of stunting in children aged 6-24 months in rural areas: Case control study. *AcTion: Aceh Nutrition Journal*, *8*(3), 318–330.

Rosita, Amanda Dewi. (2021). Hubungan pemberian MP-ASI dan tingkat pendidikan terhadap kejadian stunting pada balita: literature review. *Jurnal Penelitian Perawat Profesional*, *3*(2), 407–412.

Setia, Maninder Singh. (2016). Methodology series module 3: Cross-sectional studies. *Indian Journal of Dermatology*, *61*(3), 261.

WHO. (2014). World's Adolescents A second chance in the second decade. *World Health Organization*, 3–6.

Wulandari, Wulandari, Rahayu, Fitri, Darmawansyah, Darmawansyah, & Akbar, Hairil. (2023). Multifaceted Determinants Of Stunting In Toddlers In The Working Area Of Puskesmas Kerkap, North Bengkulu Regency. *Afiasi: Jurnal Kesehatan Masyarakat*, *8*(1), 413–422.