

# The correlation between exclusive breastfeeding and wasting in toddlers in the working area of Gisting Public Health Center, Tanggamus Regency

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## ABSTRACT

One of the acute nutritional deficits, wasting, has a significant influence on toddlers' growth and development, increasing their risk of cognitive impairment and death. According to the Riskesdas Indonesia 2018 data, the prevalence of under-five malnutrition reached 10.2%. According to the examination of the nutrition program at the Gisting Public Health Center, wasting affected 11.9% of toddlers. The objective of this study was to determine the correlation between exclusive breastfeeding and wasting in toddlers in the working area of Gisting Public Health Center, Tanggamus Regency in 2022. This type of research is a quantitative study using an analytical survey method with a Case-Control approach. The population in this study was all toddlers in the Working Area of Gisting Public Health Center, Tanggamus Regency, Lampung in 2022. The data collection method used primary data using interview guidelines and secondary data using MCH books and cohorts. The sample for this study consisted of 356 participants who were split into 178 case groups and 178 control groups. This study used a straightforward random sample technique for sampling. The chi square test is the method of analysis. According to the study's finding, exclusive breastfeeding and wasting are related ( $p$ -value  $0.04 < 0.05$ ). Suggestions for how the Gisting Health Center could educate moms of young children about the benefits of exclusive nursing in order to prevent wasting.

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## INTRODUCTION

Toddlers are particularly susceptible to nutritional issues. Toddlers are the age group most likely to experience nutritional issues since they are in a growth and development cycle that requires more nutrients than other age groups. A toddler's growth and development will be affected if their nutritional needs are not supplied in accordance with the RDA (nutritional adequacy rate). Wasting is one of the illnesses that affect a toddler's growth and development (Supariasa, 2016).

Toddlers are categorized into two categories based on their nutritional status: wasting and severely wasting. Weight in relation to body length or height (BW/LB or BW/BH) is a growth curve that can be used to monitor wasting objectively. If the findings of the curve go below the line - 2 SD (Standard Deviation), toddlers are considered to be wasting. There are numerous immediate and long-term repercussions of wasting. Wasting is one of the global nutritional problems that occur throughout the world (Oktora & Rahayu, 2021)

Wasting is a condition in which a toddler has a lower body weight compared to his height, in other words if a toddler's weight is in a Z score <-2 SD then the toddler is experiencing wasting (Aguayo et al., 2017; Bentley et al., 2015; Wijwinarsih et al., n.d. UNICEF, 2020)

The immediate effects include decreased curiosity about the environment, less sociability, less happiness, and a tendency to become apathetic. The risk of under-five mortality will rise as a result of the long-term effects, which include disruption of physical growth, cognitive impairment, poor learning achievement, behavioral disorders, and even severe wasting. Some research reports that risky wasting increases the incidence of diarrhea, acute tract infections, chronic diseases, brain damage, inhibiting physical, intellectual, mental, intelligence, and decreasing toddler productivity (Aguayo et al., 2017; Briend et al., 2015- n.d.; Fekadu et al., 2015).

There is a strong association between the two conditions whereby episodes of wasting contribute to stunting and, to a lesser extent, stunting leads to wasting. The prevalence of stunting in Indonesia is still high at 29.6 persen (Komalasari et al., 2020). The relationship and associations between wasting and stunting are not yet well understood. Both forms of malnutrition probably share many causal pathways, as an extensive review of the literature failed to identify risk factors for wasting not associated with stunting. At the population level, the frequency of stunting in the age group from 18 to 24 months is correlated with that of wasting in children less than 17 months of age (Martorell & Young, 2012; Richard et al., 2012a)

Exclusive breastfeeding can prevent wasting in infants. Children under five years old who are not given exclusive breastfeeding have a greater risk of wasting when compared to children who are exclusively breastfed (Abebe et al., 2017; Asfaw et al., 2015; Nepali et al., 2020). In 2019, the worldwide wasting rate reached 47 million people and 14.3 million of them were severely wasted (UNICEF, 2020). In the province of Lampung, the prevalence of wasting is 10.64%, with a very thin category of 3.89% and 6.75% of under-fives. According to the 2018 Riskesdes, Tanggamus Regency has a prevalence of wasting reaching 9.5%, with a distribution of 2.8% for very thin toddlers and 6.7% for underweight toddlers (Dinas Kesehatan Provinsi Lampung, 2020, Riskesdes, 2018, Utami & Mubasyiroh, 2019).

Impact of Nutrition on Growth, Brain, and Cognition Journal reported that childhood nutritional deficiencies, such as stunting, wasting, and micronutrient deficiencies, are linked to subpar developmental performance, which in turn leads to subpar academic performance, psychological issues, and lower wage income. With regard to these many repercussions of wasting, the Government of Indonesia has set a target for 2030 under the Sustainable Development Goals (SDGs) program to eradicate all forms of malnutrition and lessen toddler stunting and wasting (Black, 2018).

Based on these impacts, one of the causes of toddlers experiencing wasting is exclusive breastfeeding (Sari, 2013). Exclusive breastfeeding given to babies up to 6 months of age can increase FM (fat mass) composition. Because at the age of toddlers really need the composition of FM (Fat Mass) (Skau et al., 2019).

Previous research by Muji Rahayu et al. (2018) regarding "The Biopsychosocial Determinants of Stunting and Wasting in Children Aged 12-48 Months". This study equally discusses wasting. The difference with this research is in terms of the variables studied, the location and the size of the sample.

According to a preliminary study conducted by Gisting Health Center nutrition officers and using data from the 2021 nutrition evaluation report, the prevalence of wasting was 11.9%.

Based on the aforementioned facts, it is clear that wasting is a severe public health issue with high rates. In fact, the WHO stated in 2014 that because wasting is linked to morbidity and death in children under the age of five, it requires special attention and treatment. Therefore, there is a need for research on the relationship between exclusive nursing and toddler wasting.

## RESEARCH METHOD

The quantitative research method used in this study is systematic scientific inquiry on components, phenomena, and their relationships. This study employs a case-control strategy that is traced retrospectively together with an analytical survey design. The researcher wanted to know the correlation between exclusive breastfeeding and wasting in the working area of the Gisting Public Health Center, Tanggamus Regency. This research was conducted on 8 August - 15 September 2022 in the Working Area of the Gisting Public Health Center, Tanggamus Regency. The population taken was all toddlers in the Working Area of the Gisting Public Health Center, Tanggamus Regency, totaling 2,676 toddlers. Determining the sample size was calculated using the formula Lameshow et al (1990) (Dahlan, 2016) and the results obtained were a sample size of 162 people. To anticipate the occurrence of non-response in the implementation of the study, the sample was increased by 10% of the minimum sample size, namely  $162 + (10\% + 162) = 178$  samples.

This study utilizes interview and observation techniques along with primary and secondary data. The interview guide in use includes questions to ask mothers of children under five regarding their history of exclusive breastfeeding as well as sociodemographic information (child's age, gender, mother's level of education, and job status). The observation sheet also records findings from observations made about children's weight and height in the Maternal and Child Health (MCH) book. The SPSS 18 program was used to do univariate and bivariate analysis on the data.

## RESULTS AND DISCUSSIONS

Based on the results of the research conducted by the author, it can be seen that the proportion of respondents who experienced wasting events can be seen in the following table:

**Table 1.** Distribution of the frequency of Wasting at the Gisting Public Health Center, Tanggamus, Lampung in 2022

Wasting	Frequency	Percentage(%)
Wasting	178	50
no wasting	178	50
Total	356	100

Based on table 1 above, it is known that 178 toddlers (50%) experienced wasting and 178 toddlers (50%) did not experience wasting.

**Table 2.** Frequency distribution of toddlers who get exclusive breastfeeding at the Gisting Public Health Center, Tanggamus, Lampung in 2022

<i>Exclusive Breastfeeding</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Exclusive Breastfeeding	271	76,1
No Exclusive Breastfeeding	85	23,9
Total	356	100

Based on table 4.5 above, it is known that there are 271 toddlers (76.1%) who receive exclusive breastfeeding and 85 toddlers (23.9%) who do not receive exclusive breastfeeding.

Bivariate analysis to determine the correlation between the independent variables, namely infectious diseases, mother's education, exclusive breastfeeding, and family opinion with the dependent variable, namely the incidence of wasting in toddlers in the working area of the Gisting Public Health Center through the Chi-square test with a confidence interval of 95% ( $\alpha = 0, 05$ ). The results of the bivariate analysis are presented as follows:

**Table 3.** The correlation between exclusive breastfeeding and wasting at the Gisting Health Center, Tanggamus, Lampung in 2022

Variable	Wasting Incidence				Total		P- Value	OR	95%CI	
	No Wasting		Wasting		n	%				
	n	%	n	%						
Exclusive Breastfeeding										
Exclusive Breastfeeding	147	54,2	124	45,8	271	100	0,004	2,065	1,250 - 3,412	
No Exclusive Breastfeeding	31	36,5	54	63,5	85	100				
Total	178	50	178	50	356	100				

Based on table 3 above, the results of the analysis of the relationship between the number of children under five who had a history of not being breastfed exclusively experienced wasting in as many as 63.5%, while the number of children under five who were exclusively breastfed experienced wasting in only 45.8% of cases. According to the Chi Square test results, there is a significant link between wasting in toddlers and a history of exclusive nursing ( $p$ -value = 0.004;  $p < 0.05$ ). The value of OR = 2.065, which indicates that toddlers who are not exclusively breastfed have a 2.065 risk of experiencing wasting, is likewise derived from the analysis's findings.

The results of this study are also supported by Rahayu et al's research in 2018 that toddlers who are not exclusively breastfed will experience wasting, when compared to toddlers who are exclusively breastfed ( $p$ -value= 0.009; OR= 3.41; 95% CI= 1.31 -8.89) (et al., 2018) . Colostrum, a golden liquid that appears on the first and second days after giving birth and is a protective fluid strong in antibodies to fight infection and has a high protein content, is present in breast milk. 10-17 times more protein and antibodies are present in colostrum than in fully developed breast milk. Because it contains living cells that mimic white blood cells that can destroy illness germs, colostrum is yellow in color and looks more like blood than milk (Supariasa, 2016).

Based on similar research, it was found that there was a lack of awareness of mothers to give exclusive breastfeeding affect the process of growth and development of children. Efforts that can be made to suppressing the occurrence of undernutrition in exclusive breastfeeding is the hope of the Mothers pay more attention to their toddler's nutritional intake and provide exclusive breastfeeding for up to 6 first month and continued until 2 years of age. Providing additional food too early is significantly associated with an increased risk of respiratory infections. The prevalence of diarrhea is higher in weaned children. This can be caused because loss of immunity from consumption of non-exclusive breast milk and also introduction unhygienic food additives that are susceptible to infectious diseases (Oktavia et al., 2022).

Similar to the results of the Effect of exclusive breastfeeding on wasting in children under five: Meta analysis study, the results exclusive breastfeeding could prevent the risk of wasting in children under five with each meta-analysis result from a cross-sectional study 0.42 times (OR = 0.42; 95% CI = 0.28 to 0.62;  $p < 0.001$ ). (Wijiwinarsih et al., n.d.) Based on the theory, related research and the results of this study, the researchers argue that exclusive breastfeeding is an important factor in growth and development for toddlers. Breast milk is the best food that has antibodies to fight infectious diseases. In this study, the results showed that 178 respondents were wasted and 54 toddlers (63.5%) were not exclusively breastfed (Proverawati and Asfuah, 2017).

This research is in line with previous research that exclusive breastfeeding is related to wasting in toddlers (Hutagaol, I. O., Situmorang, B. H. L., Arini, A., & Friani, 2020). Exclusive

breastfeeding was significantly associated with a higher risk for stunting and wasting. The present results showed that children who were not exclusively breastfed were more likely to be stunted and wasted than exclusively breastfed children. This finding agrees with that of the studies from Ghana and India Breastmilk is a significant energy source as it has been shown to reduce the risk for chronic diseases such as diabetes, hypertension, allergies, and obesity, which are predictors of child undernutrition (Danso & Appiah, 2023; Donatus et al., 2017).

The mother's lack of education is possibly one of the reasons why toddlers are not nursed. One of the reasons for not providing exclusive breastfeeding for six months is the mother's poor level of education. Poor levels of education among mothers are related to poor levels of knowledge among mothers on the advantages of nursing for infants. Low-educated mothers can lack the foundation to discuss the advantages of breast milk for their infants. Therefore, when toddlers are under 6 months old, it will be simple to follow parental instructions to give them food. Toddlers who are fed too early will not receive exclusive breastfeeding, which prevents them from developing the immunity that comes with breastfeeding exclusively for six months.

## CONCLUSION

Exclusive breastfeeding leads to waste because the baby needs the nutrients in breast milk to grow and develop. Infants who do not receive exclusive breastfeeding run the danger of being wasted when they are toddlers, even though wasting is not immediately apparent when the baby is 6 months old. Health professionals must educate mothers who have infants between the ages of 0 and 6 months on the benefits of exclusive breastfeeding in order to prevent toddler wasting. Suggestions for further research to add research variables with even more samples.

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