The Relationship Between Exclusive Breastfeeding and Speech Delay in Toddlers in Coastal Areas

Ellyani Abadi[1], Haswindah Arifin[1], Siti Hadrayanti Ananda[1]

[1]Prodi S1 Gizi, Sekolah Tinggi Ilmu Kesehatan Karya Kesehatan, Kendari, Sulawesi Tenggara, Indonesia

Email correspondence: ellyaniabadi@gmail.com

Track Record Article

Revised: 01 March 2026
Accepted: 20 June 2026
Published: 29 June 2026

How to cite :
Abadi, E., Arifin, H., & Ananda, S. H. (2026). The Relationship Between Exclusive Breastfeeding and Speech Delay in Toddlers in Coastal Areas. *Contagion : Scientific Periodical of Public Health and Coastal Health*, 8(2), 291–302.

Abstract

Speech delay in early childhood is a serious problem that affects communication and cognitive development. Exclusive breastfeeding may be related to children's speech development. The purpose of this study was to determine the relationship between exclusive breastfeeding and speech delay in toddlers in the coastal area of the Lansilowo Community Health Center. This was a quantitative, cross-sectional study. The sample consisted of 62 toddlers aged 24-59 months in the working area of the Lansilowo Health Center in Konawe Kepulauan Regency in June 23-September 9, 2025. The sampling technique used was proportionate stratified random sampling. Data on speech delay were assessed using the Denver II instrument, which is a validated and reliable questionnaire, and analyzed using Fisher's exact test. The results showed that of the 2 toddlers who were exclusively breastfed, 100% did not have speech delays. Furthermore, of the 60 toddlers who were not exclusively breastfed, the majority had speech delays (93.3%). The Fisher's exact test yielded a p-value of 0.008. The study concludes that an exclusive breastfeeding history was associated with speech delay among toddlers, and there is a relationship between exclusive breastfeeding and speech delay in toddlers

Keywords: Child Development, Coastal Areas, Exclusive Breastfeeding, Speech Delay, Toddlers

INTRODUCTION

Speech delay in early childhood refers to a condition in which a child develops speech skills much more slowly than other children of the same gender and age. (Ali et al., 2025; Shilvia et al., 2025). Untreated speech delay occurs in 40%-60% of children, and these children have a higher risk of experiencing social, emotional, behavioral, and cognitive problems in adulthood. (Amalia, et al., 2024; Nashirah, & Frety, 2024). Breastfeeding has been reported as one of the factors associated with child speech and language development. (Hanifah, et al., 2024). Every mother is encouraged to meet her baby's nutritional needs by breastfeeding for 0-6 months and continuing until the age of two. (Askar, 2025).

Based on data from the World Health Organization (WHO), the 2023 exclusive breastfeeding prevalence through the Global Breastfeeding Scorecard data obtained from 194 countries shows 40% of babies are exclusively breastfed, including in Indonesia, and only 23 countries have an exclusive breastfeeding rate above 60%, while the WHO itself has a target of at least 50% exclusive breastfeeding by 2025 (WHO, 2024). The exclusive breastfeeding coverage in Indonesia in 2023 is 44.8%. Indonesia's target for exclusive breastfeeding coverage is 80%, but the average coverage is still below the standard for exclusive breastfeeding.

Exclusive breastfeeding coverage in Southeast Sulawesi in 2023 was 54.7%, which is still far from the Minimum Service Standard (SPM) for exclusive breastfeeding, which is 80% (Ministry of Health of the Republic of Indonesia, 2024).

Data obtained from the Konawe Islands District Health Office shows that exclusive breastfeeding coverage has declined over the past four years: in 2023, exclusive breastfeeding coverage decreased to 37.34%, and in 2024, it decreased further to 36.9%. The Lansilowo Community Health Center is one of the working areas of the Konawe Islands District Health Office, where exclusive breastfeeding coverage has declined, and exclusive breastfeeding coverage at the Lansilowo Community Health Center is still below the minimum service standard of 80% (Konawe Islands Regency Health Office, 2024).

Data obtained at the Lansilowo Community Health Center shows that exclusive breastfeeding coverage in 2022 was 44.12%, in 2023 it was 48.15%, and in 2024 it was 54.41%. Based on this data, the prevalence of exclusive breastfeeding is increasing but is still below the minimum service standard target. Additionally, based on interviews with 10 mothers who have toddlers in the health center's service area, Lansilowo, 70% of toddlers aged 2-4 years old were found to have speech delays, and 80% of them were not exclusively breastfed. A preliminary observation involving 10 mothers in the Lansilowo area suggested that 8 toddlers did not receive exclusive breastfeeding, 2 toddlers received exclusive breastfeeding, and 7 of them did not experience speech delays, and 3 of them experienced speech delay (Lansilowo Community Health Center, 2024).

Exclusive breastfeeding can have an impact on children, including speech disorders, which is a complex problem for both children and parents. Speech delay is a fairly common problem in children aged 2-5 years. Speech and language delays vary between 1% and 32% in the normal population. Many children with speech disorders experience mental stress, which can have a psychological impact on them, such as feelings of inferiority in social situations and being excluded by their peers (Nashirah, F. M., & Frety, 2024; Siahaan & Sinaga, 2025). Breastfeeding has been reported as one of the factors associated with child speech and language development. This disorder seems to be increasing rapidly. Even normal children without speech disorders need stimulation of their speech and language abilities from birth, and this stimulation can even be done while they are still in the womb (Ayu et al., 2023; Muchtar et al., 2025). Breast milk plays an important role in child development because it contains all the nutrients a baby needs, from hormones, antibodies, and immune factors to antioxidants (Handayani et al., 2025). Children who are not exclusively breastfed may have a higher risk of developmental problems, including language development delays. Newborns obtain breast

milk through the rooting reflex (smelling reflex), sucking reflex, and swallowing reflex. These breastfeeding reflexes greatly influence the development of a child's speech abilities (Hardinsyah & Supariasa, 2019). Research conducted by Supu in 2017 found that there were differences in speech development in 2-4-year-old toddlers who were breastfed and those who were not at the Nur Hidayah Surakarta Early Childhood Education Center, namely, that the speech development of toddlers who were breastfed was better than that of toddlers who were not breastfed. Given the significant benefits of breast milk for toddler development, especially in terms of speech development, and the limited research on speech development in toddlers (Supu, 2017).

However, studies examining the association between exclusive breastfeeding history and speech delay among toddlers in coastal health center settings remain limited. Therefore, this study was conducted to examine the relationship between exclusive breastfeeding and speech delay in toddlers in the coastal area of the Lansilowo Community Health Center. This study aimed to examine the association between exclusive breastfeeding history and speech delay among toddlers in the coastal area of the Lansilowo Community Health Center.

METHODS

This type of research uses quantitative research, which examines the relationship between dependent and independent variables. The research design is a cross-sectional study. This research was conducted in the working area of the Lansilowo Health Center, Konawe Islands Regency, from June 23 to September 9, 2025. The population in this study consisted of all toddlers aged 24-59 months in the working area of the Lansilowo Health Center, Konawe Islands Regency, in June-September 2025, totaling 205 people, and the sample in this study was some toddlers aged 24-59 months in the working area of the Lansilowo Health Center, Konawe Islands Regency, in June-September, 2025, totaling 62 people, obtained using a proportional stratified random sampling technique, which is a technique used when the population has members/elements that are not homogeneous and stratified proportionally (Sugiyono, 2021).

The sample was selected using proportional stratified random sampling, in which respondents were randomly selected from each stratum according to the proportion of the population. Respondents were mothers who had toddlers. This study considered ethical aspects of research by applying the principles of respect for respondents' rights, security, and confidentiality. Respondents who agreed to participate were asked to sign an informed consent form as a form of voluntary agreement without coercion.

The research instrument used in this study was a questionnaire as a tool for collecting data. Speech delay is measured using the Denver II questionnaire by trained raters and uses the domain of language development, with the criteria of not being late (Normal): if at least <2 delays are found in the box that intersects the vertical line of age, and late (Abnormal): if ≥ 2 delays are found in the box that intersects the vertical line of age (Wahyuni et al., 2022). Exclusive breastfeeding is when infants receive only breast milk from birth to 6 months without other food or drinks, except medicines/vitamins if needed. The questionnaire used was the same one used in previous studies on exclusive breastfeeding and Wahyuni's (2021) study on speech development (speech delay). This instrument that researchers have tested has undergone good validity and reliability testing process with a total item correlation coefficient of r = 0.435, as well as adequate reliability with a Cronbach's alpha value of 0.87. Data analysis of the relationship between dependent and independent variables used the Chi-Square test using IBM SPSS version 24. However, if the Expected Count value was below 5 (<5), the Fisher's Exact test was used. The significance level p-value < 0.05 was considered statistically significant. (Sugiyono, 2021).

RESULTS

Table 1. Characteristics of Respondents

Variable	Category	Frequency	Percentage
Maternal Age (Years)	20-29	31	50,0
	30-39	25	40,3
	40-49	6	9,7
Toddler Age (Months)	24-35	27	43,6
	36-47	18	29,0
	48-59	17	27,4
Gender	Male	34	54,8
	Female	28	45,2

Table 1 shows that of the 62 samples, based on age characteristics, the majority of mothers, 31 people (50.0%), were aged between 20 to 29 years. Furthermore, the majority of toddlers were aged 24 to 35 months, 27 people (43.6%), and the majority of toddlers were male, 34 people (54.8%).

Table 2. Distribution of Research Variables

Variable	Category	Frequency	Percentage
Exclusive breastfeeding	Exclusive Breastfeeding	2	3.2
	Not Exclusive Breastfeeding	60	96.8
Speech Delay	Not Speech Delay (Normal)	6	9.7
	Speech Delay (abnormal)	56	90.3

Table 2 shows that of the 62 samples, in terms of exclusive breastfeeding, most were not exclusively breastfeeding, namely 60 people (96.8%), while the rest were exclusively breastfeeding, namely 2 people (3.2%). Then, based on speech delay, the majority had speech

delay (abnormal), namely 56 people (90.3%), and the rest did not have speech delay (normal), namely 6 people (9.7%).

Table 3. Relationship between Exclusive Breastfeeding and Speech Delay in Toddlers in the coastal area of Lansilowo Community Health Center (n=62)

Exclusive Breastfeeding	Speech Delay				Total		p value
	Normal		Delayed				
	n	%	n	%	n	%	
Exclusive breastfeeding	2	100	0	0	2	100	
Non-exclusive breastfeeding	4	6,7	56	93,3	60	100	0,008*
Total	**6**	**9,7**	**56**	**90,3**	**62**	**100**	

**Fisher's exact test*

Table 3 shows that out of 62 samples, there were 2 people who were exclusively breastfed and 60 people who were not exclusively breastfed. Of the 2 individuals who were exclusively breastfed, 100% did not have speech delay (normal). Of the 60 individuals who were not exclusively breastfed, the majority had speech delay (abnormal), totaling 56 individuals (93.3%), while the rest did not have speech delay (normal), totaling 4 individuals (6.7%). Fisher's exact test showed a statistically significant association between exclusive breastfeeding history and speech delay ($p = 0.008$).

DISCUSSION

This study found a statistically significant association between exclusive breastfeeding history and speech delay among toddlers in the coastal area of Lansilowo Community Health Center. The findings suggest that toddlers with a history of exclusive breastfeeding tended to have better speech development; however, causality cannot be established due to the cross-sectional design. The results showed that out of 62 samples, in terms of exclusive breastfeeding, most toddlers did not receive exclusive breastfeeding, namely 96.8%, while only 3.2% received exclusive breastfeeding. This indicates that the coverage of exclusive breastfeeding among respondents is still very low. The low rate of exclusive breastfeeding can be attributed to various factors, including mothers' lack of knowledge about the importance of exclusive breastfeeding, cultural influences or family habits that introduce complementary foods too early, and the strong influence of formula milk promotion. In addition, some mothers may have to return to work, making it difficult to maintain exclusive breastfeeding.

This finding is consistent with Wahyuni et al. (2022), who reported an association between exclusive breastfeeding and speech development among toddlers aged 2–4 years. However, the present study had a much more unbalanced distribution of exclusive breastfeeding history, which may affect the stability of the statistical estimate. Wahyuni et all found that most toddlers aged 2-4 years were not exclusively breastfed (53.2%). This condition

is in line with previous studies stating that factors such as education, knowledge, family support, and the mother's employment greatly influence the success of exclusive breastfeeding. In fact, according to theory, exclusive breastfeeding until the age of 6 months provides great benefits for child growth and development, increases immunity, and reduces the risk of infectious diseases (Soetjiningsih, 2021).

This research is reinforced by the theory that exclusive breastfeeding plays an important role in supporting the development of the child's central nervous system and brain. Not providing exclusive breastfeeding can result in suboptimal brain nutrition, which can impact cognitive development and language skills. In addition, toddlers who are not given exclusive breastfeeding are at greater risk of recurrent infections, malnutrition, and limited stimulation during the breastfeeding process, all of which can contribute to speech delays (Afifah et al., 2022).

The results of the study showed that of the 62 samples, the majority of toddlers experienced speech delays. This finding indicates that the prevalence of speech delays in toddlers in the study area is quite high. This condition can be influenced by various factors, such as lack of stimulation from parents, low verbal interaction within the family, excessive use of gadgets by children, and environmental factors that are not conducive to language development. In addition, exclusive breastfeeding also plays an important role, because breast milk contains optimal nutrition for brain development, which can affect a child's speech and language abilities. In addition, this study also sample who did not experience speech delays, which is based on the results of observations on the aspect of language development. Toddlers are able to achieve developmental targets according to the developmental stages that must be achieved based on their age. This condition is also triggered by stimulation from the family and supported by adequate nutrition so that it can improve children's ability to speak.

This study is in line with the research by Ramdana et al that speech delay occurs when children are unable to use words fluently and in accordance with their age. Several factors that can cause speech delay in children include environmental, genetic, and biological factors. Environmental factors such as lack of interaction with adults, lack of verbal stimulation, and lack of attention from parents can contribute to speech delay in early childhood. A family history of speech disorders can also increase the risk of speech delay in children due to genetic factors. In addition, hearing, motor, and brain development disorders are biological factors that can cause speech delay in children (Ramdana et al., 2024).

This research also supports the theory that, mechanically, direct breastfeeding involves complex coordination between sucking, swallowing, and breathing. Jaw and tongue

movements during breastfeeding serve as natural exercise for the articulatory organs (such as the tongue, lips, and jaw), which are essential for later speech and speech production (Perbawati, 2024).

This study is in line with child development theory, which states that speech delays can occur if children do not receive sufficient stimulation, have suboptimal nutrition, or have certain medical risk factors. Children who are not exclusively breastfed are more prone to developmental delays, including in language development. Thus, the results of this study emphasize the importance of promotional and preventive efforts, such as educating parents about early speech development stimulation, limiting the use of gadgets, and increasing exclusive breastfeeding coverage to support optimal toddler growth and development.

Language ability is an indicator of a child's overall development. Because language ability is sensitive to delays or impairments in other systems, it involves cognitive, motor, psychological, emotional, and environmental abilities. Lack of stimulation can cause speech and language disorders, and these disorders can be permanent. Language ability is a combination of all systems of child development. Language ability involves motor, psychological, emotional, and behavioral skills. (Soofi et al., 2024).

The results of this study show that out of 62 samples, there were 2 toddlers who were exclusively breastfeeding, and all of them (100%) had normal speech development. Furthermore, of the 60 toddlers who did not receive exclusive breastfeeding, the majority experienced speech delays (abnormal) at 93.3%, and only 6.7% had normal speech development. This shows that not providing exclusive breastfeeding is closely related to a high risk of speech delays in toddlers. The results of statistical analysis using Fisher's Exact test at a 95% confidence level obtained a p-value = 0.008 < α (0.05), so the alternative hypothesis was accepted. This shows that there is a significant relationship between exclusive breastfeeding and speech delay in toddlers in the coastal area of the Lansilowo Community Health Center. This finding reinforces that exclusive breastfeeding is not only beneficial in meeting nutritional needs and increasing immunity, but also plays an important role in children's brain development and language skills.

The limitations of this study lie in the relatively small sample size, potentially increasing the risk of sampling bias and causing the diversity of subject characteristics to not fully reflect the general toddler population. Furthermore, the use of an observational study design limits the study's ability to explain the causal relationship between exclusive breastfeeding and speech delay. The relationship found may be influenced by various confounding factors that cannot be optimally controlled, such as the child's nutritional status,

maternal education level, parenting patterns, the intensity of language stimulation in the family environment, a history of premature birth, the child's health condition, and the family's socioeconomic factors. Another limitation of this study relates to the measurement of exclusive breastfeeding history obtained through interviews, potentially leading to recall bias. This condition can occur if respondents, especially mothers, have difficulty accurately recalling breastfeeding patterns in the early stages of a child's life.

The direct breastfeeding process provides oral-motor stimulation that helps the development of the mouth, jaw, and tongue muscles that play a role in sound production and speech articulation. (Ratna et al., 2025). In coastal communities, despite abundant marine food resources, low exclusive breastfeeding coverage, maternal knowledge about nutrition and care, and socioeconomic conditions that influence child feeding practices remain problematic. Consequently, the potential of coastal resources to support children's brain and language development has not been optimally utilized. Therefore, coastal nutrition theory can be used to explain that utilizing marine resources through improving the nutritional quality of breastfeeding mothers and the success of exclusive breastfeeding are important factors in preventing speech delay in children (Hariani, 2025).

This study is in line with a previous study by Wahyuni, which obtained a p-value of 0.001, indicating a relationship between exclusive breastfeeding and speech development in toddlers aged 2-4 years in the working area of the Poasia Health Center in Kendari City. (Wahyuni, et al., 2022). This study is also consistent with the research by Ayu et al., which found a significant relationship between exclusive breastfeeding and speech delay. Children who are not exclusively breastfed tend to be at greater risk of developmental delays, including in speech. Thus, these results emphasize the importance of increasing exclusive breastfeeding coverage in the community, particularly through education for mothers and families, as well as support from health facilities, so that toddlers' physical and psychological development can be achieved optimally. (Ayu, et al., 2023).

This study is also in line with Septi in 2025 study, which found that the majority of mothers had provided exclusive breastfeeding, namely 81.3%, and the development of toddlers aged 6-24 months mostly experienced appropriate development, namely 82.7%. Then there is a significant relationship between exclusive breastfeeding and development in toddlers aged 6-24 months, with a p-value = 0.000 (<0.05). This study proves that mothers who provide exclusive breastfeeding tend to have children with appropriate development (Septi, 2025).

The results of this study are reinforced by the theory proposed by Afifah et al. that breast milk contains essential nutrients such as DHA, AA, taurine, and choline, which

contribute to the development of brain nerve cells, which in turn affect speech ability. In addition, the breastfeeding process also increases emotional closeness and verbal interaction between mother and child, which can stimulate early language development. (Afifah et al., 2022).

Language development disorders in children can be caused by various factors, namely genetic factors, hearing disorders, low intelligence, lack of interaction between children and their environment, delayed maturation, and family factors. In addition to speech disorders, it can also be caused by physical abnormalities such as a cleft lip and cerebral palsy. Stuttering can also occur due to low intelligence, lack of interaction between the child and their environment, delayed maturation, and family factors. Furthermore, this disorder is also one of the language development disorders that can be caused by pressure from parents for their children to speak clearly (Soetjiningsih, 2021) .

A large cohort study involving over 570,000 children found that exclusive breastfeeding for at least six months was associated with a reduced risk of delays in achieving language and neurodevelopmental milestones. Therefore, exclusive breastfeeding not only plays a role in meeting infants' nutritional needs but is also a crucial factor supporting optimal speech and language development (Goldshtein et al., 2025).

This study disagrees with the study by Setiawan et al. (2024) conducted on children aged 6–12 months in West Jakarta, which found that exclusive breastfeeding was not statistically associated with children's speech development ($p = 1.000$). The researchers concluded that speech development is a multifactorial process that is not solely influenced by breastfeeding history (Setiawan & Herwanto, 2024). Similarly, a study by Faradilah et al of 286 children, which assessed the relationship between breastfeeding duration and language development using the Language Development Survey (LDS), showed that breastfeeding duration had no significant relationship with language development scores. However, children who are breastfed for longer (>18 months) tend to have a lower risk of language delay, but this effect does not reach statistical significance (Faradilah et al., 2022).

Speech delay in children is influenced by various interacting risk factors, both biological and environmental. Commonly reported biological factors include prematurity, low birth weight, birth asphyxia, hearing loss, oropharyngeal abnormalities, and neurological and motor development disorders. Furthermore, familial factors such as a family history of speech delay, male gender, and a large family size are also known to increase the risk of speech delay. (Wu et al., 2023). Environmentally, lack of verbal stimulation, low parental education, low socioeconomic status, and parenting styles that are less supportive of language development

play significant roles in delaying children's speech development. Excessive exposure to electronic media, particularly gadgets and television use for more than two hours per day, has also been shown to be associated with an increased risk of speech delay (Muyassaroh et al., 2022). In addition, nutritional factors such as not receiving exclusive breastfeeding during the first six months of life and poor nutritional status can hinder the development of a child's nervous system and language skills (Liang et al., 2023). Therefore, early identification of these various risk factors is crucial for optimally preventing and managing speech delay.

CONCLUSIONS

The conclusion of this study is that 96.8% of toddlers do not receive exclusive breastfeeding, and 90.3% speech delayed. Most toddlers who do not receive exclusive breastfeeding experienced speech delays (93.3%). However, some toddlers who do not receive exclusive breastfeeding still have normal speech development (6.7%). Fisher's exact test showed a statistically significant association between exclusive breastfeeding history and speech delay among toddlers ($p = 0.008$). This finding shows that speech development is not only influenced by exclusive breastfeeding, but also influenced by other factors such as environmental stimulation, parenting patterns, nutritional status, and children's health conditions. In addition, the number of exclusive breastfeeding samples is very limited, so the generalization of the research results still has limitations.

Recommendations for the Lansilowo Community Health Center to strengthen counseling programs for pregnant and breastfeeding mothers on the importance of exclusive breastfeeding for child growth and development, to prevent speech delays. For mothers of toddlers, it is necessary to interact frequently, engage in conversation, tell stories, sing songs, and read books to stimulate children's language development from an early age. And for future researchers to analyze other factors that may influence speech delays, such as a history of premature birth, nutritional status, exposure to gadgets, stimulation at home, the mother's education and employment level, and a history of hearing loss.

ACKNOWLEDGMENTS

We would like to express our deepest gratitude to the Karya Kesehatan College of Health Sciences and the Directorate General of Research and Development of the Ministry of Higher Education, Science, and Technology for facilitating and supporting the completion of this article.

REFERENCE

Afifah, C. A. N., Amalia Ruhana, S. P., Dini, C. Y., Gz, S., Pratama, S. A., & Gz, S. (2022). *Nutrition Textbook in the Life Cycle*.. Deepublish.

Ali, S. A., El-Setouhy, M., Albasheer, O., Alqassim, A. Y., Muaddi, M. A., Jareebi, M. A., Mkeen, A. M., Alattas, K. K. M., Alshareef, G. M. A., & Koko, R. F. I. (2025). Sociodemographic, health, and environmental determinants of speech delay in children: A case–control study. *Medicine*, *104*(34), e43817.

Amalia, A., Dewiani, K., Novianti, Yusanti, L., Purnama, Y., & Yulyani, L. (2024). Nutritional Status Overview of Toddler Development in the Coastal Region of Bengkulu City, Indonesia. *Journal of Health Sciences and Medical Development*, *3*(3), 142–156.

Askar, H. (2025). Coastal Women's Contribution to Child Stunting Prevention: A Social Dimension Approach in Coastal Communities. *Jurnal Perikanan Dan Kelautan*, *30*(2), 203–211.

Ayu, R., Islamiah, A., & Setiyani, A. (2023). The Relationship between Exclusive Breastfeeding History and Child Development Aged 6-36 Months in the Buduran Community Health Center Work Area. *Echo of Indonesian Midwives*, *12*(2), 78–86.

Faradilah, A., Rusyaidi, A. M., Jalaluddin, S., & Savitri, A. I. (2022). Breastfeeding Duration More than 18 Months Possibly Lowers the Risk of Language Development Delay in Children Aged 18–35 Months. *Kesmas*, *17*(4), 243–250. https://scholarhub.ui.ac.id/cgi/viewcontent.cgi?article=1508&context=kesmas.

Goldshtein, I., Sadaka, Y., Amit, G., Kasir, N., Bourgeron, T., Warrier, V., Akiva, P., Avgil Tsadok, M., & Zimmerman, D. R. (2025). Breastfeeding duration and child development. *JAMA Network Open*, *8*(3), e251540.

Handayani, L., Evayanti, A., & Saedah, A. R. I. (2025). Mothers' Perceptions of Breastfeeding Success in Coastal Areas: A Review. *Journal of Health Science and Pharmacy*, *2*(1), 61–71. https://stikbar.org/ycabpublisher/index.php/jhsp/article/view/1165

Hanifah, A. N., Septiana, M., Novita, N., Lestari, F., Rejeki, I. S., & Wijayanti, L. A. (2024). Combination of Breast Care and Oxytocin Massage on Breast Milk Production During the Postpartum Period at the Healthy Clinic. *International Journal of Health Sciences*, *2*(3), 1170–1179. https://doi.org/10.59585/ijhs.v2i3.490

Hardinsyah & Supariasa, 2019. *Nutrition Science: Application Theory*. EGC.

Hariani, S. (2025). Health Behavior of Coastal and Rural Communities. 109.

Konawe Islands Regency Health Office. (2024). *Profile of the Konawe Islands Regency Health Office*.

Lansilowo Community Health Center (2024). *Lansilowo Community Health Center Profile*.

Liang, W. H. K., Gn, L. W. E., Tan, Y. C. D., & Tan, G. H. (2023). Speech and language delay in children: a practical framework for primary care physicians. *Singapore Medical Journal*, *64*(12), 745–750. https://doi.org/10.4103/singaporemedj.SMJ-2022-051

Ministry of Health of the Republic of Indonesia. (2024). *Results of the 2023 Indonesian Health Survey*.

Muchtar, F., Srinugraha, E., & Hibali, C. M. L. O. (2025). Stunting in Coastal Communities in Indonesia: A Review. *Journal of Epidemiology and Health Science*, *2*(1), 171–178.

Muyassaroh, M., Fahrizal, F., Naftali, Z., Yunika, K., Farokah, F., Widodo, P., & Ruspita, D. A. (2022). Identifying Risk Factors of Speech and Language Delay on Children. *Jurnal Kesehatan Masyarakat*, *17*(3), 431–435.

Nashirah, F. M., & Frety, E. E. (2024). Determinants of Speech Delay in Children: A Literature Review. *Malahayati Nursing Journal*, *6*(10), 4015–4026. doi: https://doi.org/10.33024/mnj.v6i10.13892

Perbawati, D. (2024). *Textbook of Postpartum Midwifery Care and Breastfeeding. Dr.*

SOEBANDI University.

Ramdana, N., Sartika, R. A., Rusmayadi, R., Herman, H., Razak, A., & Rahayu, R. (2024). Fenomena Speech delay Gangguan Perkembangan Berbicara dan Bahasa Pada Anak Usia Dini. *Edu Sociata (Jurnal Pendidikan Sosiologi)*, *7*(1), 837–844. doi: https://doi.org/10.33627/es.v7i1.2230

Ratna Suminar, S. S. T., Riadini Wahyu Utami, S. S. T., Ayesha Hendriana Ngestiningrum, S. S. T., Silviatul Amalia, S. K., & Bd Desriati Sinaga, S. S. T. (2025). Reference Book for Early Detection and Growth and Development of Early Childhood (0-5 Years). Optimal for the Nation.

Septi, A. (2025). *The Relationship Between Exclusive Breastfeeding and Development in Toddlers Aged 6–24 Months in the Working Area of the Karang Anyar Community Health Center. Tanjung Karang Health Polytechnic, Ministry of Health.*

Setiawan, F. V., & Herwanto, H. (2024). The Relationship Between Exclusive Breastfeeding And Speech Development In Children 6-12 Months. *Hearty*. *LPPM Universitas Ibn Khaldun Bogor*, *12*(3), 531–535.

Shilvia, S., Zulvayanti, Z., Herawati, D. M. D., Susiarno, H., Hilmanto, D., & Irianti, S. (2025). The Connection Between Health Education, Exclusive Breastfeeding, and Infant Weight Gain: A Scoping Review. *Contagion: Scientific Periodical Journal of Public Health and Coastal Health*, *7*(1), 415–427.

Siahaan, I., & Sinaga, J. P. (2025). Maternal Iodine Levels and Their Impact on Breast Milk Iodine Concentration: Analysis. *Cermin Dunia Kedokteran*, *52*(5), 347–351.

Soetjiningsih, R. (2021). *Child Growth and Development, 2nd Edition*. Jakarta Books.

Soofi, S. B., Khan, G. N., Sajid, M., Asif Hussainyar, M., Shams, S., Shaikh, M., Ouma, C., Azami, S., Naeemi, M., & Hussain, A. (2024). Effectiveness of Specialized Nutritious Foods and Behavior Change Communication Interventions During the First 1,000 Days of Life to Prevent Stunting Among Children Under Two Years: A Quasi-Experimental Study in Afghanistan. *Nutri Journal*, *1*(1), 45–56.

Sugiyono. (2021). *Quantitative, Qualitative, and Mixed Methods Research*. Alfabet.

Supu. (2017). *Differences in Speech Development in Breastfed and Non-Breastfed Infants Aged 2-4 Years at Nurhidayah PAUD Surakarta. Thesis.* Physiotherapy Undergraduate Program. Faculty of Health Sciences. Muhammadiyah University of Surakarta.

Wahyuni, I., Abadi, E., & Dhesa, D. B. (2022). The Relationship between Exclusive Breastfeeding (ASI) and Speech Development in Toddlers Aged 2-4 Years in the Working Area of the Poasia Health Center, Kendari City. *Jurnal Ilmiah Karya Kesehatan*, *2*(02), 58–62. https://jurnal.karyakesehatan.ac.id/JIKK/article/view/697

WHO. (2024). *Malnutrion*. https://www.who.int/news-room/fact-sheets/detail/malnutrition/.

Wu, S., Zhao, J., de Villiers, J., Liu, X. L., Rolfhus, E., Sun, X., Li, X., Pan, H., Wang, H., & Zhu, Q. (2023). Prevalence, co-occurring difficulties, and risk factors of developmental language disorder: first evidence for Mandarin-speaking children in a population-based study. *The Lancet Regional Health–Western Pacific*, *34*. https://www.thelancet.com/journals/lanwpc/article/PIIS2666-6065(23)00031-7/fulltext