The Relationship of Exclusive Breastfeeding in the Effort to Prevent Stunting in Toddlers at Cidahu Health Center in 2022

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Abstract---The provision of exclusive breastfeeding is believed to influence the occurrence of stunting. The aim of this study is to determine the relationship between exclusive breastfeeding and the occurrence of stunting at the Cidahu Health Center in 2022. This research used a purposive sampling method, with a population of mothers with stunted toddlers aged 24-59 months from 8 villages, totaling 271 toddlers. The sample size for this study was determined using total sampling, involving 56 respondents. Data analysis utilized univariate analysis with frequency distribution and bivariate analysis using the chi-square test with Odds Ratio (OR) calculation. The research results showed that the majority of respondents at the Cidahu Health Center provided exclusive breastfeeding, accounting for 65%, with 379 (31.5%) being male infants and the remaining 365 (30.3%) female infants. There is a significant relationship between exclusive breastfeeding and the occurrence of stunting in toddlers aged 24-59 months (p-value 0.000 < 0.05). In conclusion, this study found a relationship between exclusive breastfeeding and the occurrence of stunting in toddlers aged 24-59 months. The recommendation for mothers and families is to consider this research as input to encourage exclusive breastfeeding to prevent stunting.

Keywords---exclusive breastfeeding, stunting, toddlers.

Introduction

Based on data from the World Health Organization (WHO), approximately 22.2% or around 150.8 million toddlers worldwide experienced stunting in 2017. This figure has seen a decrease compared to 2005 at 29.3%, 2010 at 26.1%, and continuously declined to 23.2% in 2015. In 2017, stunted toddlers worldwide consisted of 29% in Africa and 55% in Asia. The highest proportion of stunting occurred in South Asia at 58.7%, followed by Southeast Asia (14.9%), East Asia (4.8%), West Asia (4.2%), and Central Asia (0.9%) with the smallest proportion. Indonesia
ranked third among Asian countries with a stunting rate of 36.4%, after Timor-Leste (50.2%) and India (38.4%) (World Health Organization, 2018).

Stunting is a nutritional problem resulting from chronic malnutrition in the first 1000 days of a child's life, impacting their physical and mental growth and development. One of the causes of stunting is inadequate nutritional intake during early childhood, where exclusive breastfeeding is the best nutrition for infants in their first 6 months of life. Stunting is associated with an increased risk of illness and death, as well as hindered motor and mental development. Stunted toddlers are at risk of intellectual decline, reduced productivity, and an increased risk of degenerative diseases in the future. This vulnerability is due to stunted children being more susceptible to infections, leading to decreased learning quality in school and increased absenteeism. Stunting also increases the risk of obesity (Purwandini & Kartasurya, 2013; Millennium Challenge Account Indonesia, 2014).

The prevalence of stunting in Indonesia has fluctuated over the years. According to the Basic Health Research data in 2018, the prevalence of stunting in Indonesian toddlers was 30.8%, showing a decrease compared to 2013 (37.2%) and 2010 (35.6%) (Ministry of Health of the Republic of Indonesia, 2018). According to 2022 data in Sukabumi Regency from the Indonesian Nutritional Status Survey (SSGI), the stunting rate is recorded at 24.2% with a sample of 200,000 toddlers. Based on data from Cidahu Health Center in 2022, the number of stunted toddlers from 8 villages is 271. In 2022, the number of stunted toddlers aged 24-59 months in Cidahu Village is 44 toddlers (Cidahu Health Center, 2022).

One of the government's stunting prevention efforts focuses on a family approach, as the family is the first environment introduced to the baby. The first two years of a child's life, known as the first 1000 days, are crucial for their growth and development. During this time, babies need sufficient and appropriate nutrition to prevent malnutrition and stunting (Susanti & Sari, 2022). Exclusive breastfeeding is the easiest way to meet a baby's nutritional needs. The benefits of exclusive breastfeeding have been proven to help children receive adequate nutrition, minimizing the risk of stunting. This effort aims to ensure that Indonesian children grow and develop optimally, with emotional, social, and physical abilities ready for learning, innovation, and competition in any field (Susanti & Sari, 2022).

In 2019, the coverage of exclusive breastfeeding in West Java province reached 63.35%, increased to 68.09% in 2020, and further increased to 76.46% in 2021. The achievement of exclusive breastfeeding in 2022 continues to increase, reaching 77.00% (West Java Health Office, 2022). The coverage of exclusive breastfeeding in Sukabumi Regency was set at 73.00% in 2017 and decreased to 69.67% in 2018. The coverage of exclusive breastfeeding at Cidahu Health Center in 2021 decreased by 60% but increased from January to December 2022 to 61.8%. The proportion of exclusive breastfeeding at Cidahu Health Center in 2022 is 65%, with 379 (31.5%) being male infants and the remaining 365 (30.3%) female infants (Cidahu Health Center, 2022).

The low level of understanding about the importance of breastfeeding during the first 6 months of a baby's life is due to a lack of information and knowledge among mothers. Additionally, the working habits of mothers, especially those living in urban areas, also contribute to the low rate of breastfeeding. Myths about breastfeeding, such as mothers who breastfeed their children can compromise their own physical condition, are challenging to dispel. Similarly, concerns that breast milk production may not be sufficient for the baby's nutritional needs often hinder mothers, leading them to seek alternative feeding methods when the baby is hungry (Harun et al., 2022).

According to the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO), to reduce infant morbidity and mortality, it is recommended to exclusively breastfeed babies for the first six months. Health Law No. 36 of 2009, Article 128 paragraph 1, states that every newborn has the right to exclusive breastfeeding from birth to six months, except for medical indications. Paragraph 2 states that during breastfeeding, families, the government, local governments, and the community must fully support the baby by providing time and public facilities. Article 200 paragraph 1 states that anyone deliberately obstructing the exclusive breastfeeding program mentioned in Article 128 will be sentenced to one year in prison and a fine of up to IDR 100,000,000 (one hundred million rupiahs).

Providing information through counseling or health education about exclusive breastfeeding to prevent stunting is one of the promotive efforts to increase mothers' knowledge about exclusive breastfeeding. It is also a preventive measure to prevent and address growth inhibition and is one of the specific interventions in the accelerated efforts to reduce stunting. Based on the above problem description, it shows the high incidence of stunting and the importance of exclusive breastfeeding for the growth of toddlers. Therefore, the author is interested in researching the relationship between exclusive breastfeeding to prevent stunting in Toddlers at Cidahu Health Center, Cidahu Subdistrict, Sukabumi Regency in 2022 (Manuaba, 1998; Prawirohardjo, 2008; Yuniarti, 2018; Asbar & Tamrin, 2020).
Research Method

The research method in this study is quantitative, employing an observational research design with a case-control approach. Case-control research is an analytical observational study conducted by comparing case groups (stunted toddlers) with control groups (non-stunted toddlers) based on their exposure status (Zainury et al., 2023). This research was conducted at Cidahu Health Center, Cidahu Village, Cidahu Subdistrict, Sukabumi Regency, due to the high number of stunted toddlers. The study was carried out from January to March 2023. The case population in this study consists of mothers with stunted toddlers aged 24-59 months in Cidahu Village, totaling 44 toddlers. The control population in this study includes mothers with toddlers aged 24-59 months in 8 villages, totaling 271 toddlers. The sample selection in this research is based on a 1:2 ratio, comprising 44 case samples and 88 control samples, resulting in a total sample size of 132.

Result and Discussion

Distribution of respondent characteristics based on the Education and Age of pregnant women and mothers of infants and toddlers.

Table 1
Frequency distribution of pregnant women, mothers of infants, and toddlers by education and age (n=30)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable (n) = 30</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education of Pregnant Women, Infants and Toddlers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Junior High School</td>
<td>10</td>
<td>33.3</td>
</tr>
<tr>
<td>Senior High School</td>
<td>11</td>
<td>36.7</td>
</tr>
<tr>
<td>Age of Pregnant Women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-23 Years</td>
<td>11</td>
<td>36.7</td>
</tr>
<tr>
<td>Age of Mothers of Infants and Toddlers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-43 Years</td>
<td>19</td>
<td>63.3</td>
</tr>
</tbody>
</table>

The respondents’ education level in this study is grouped into three categories: Elementary School, Junior High School, and Senior High School. The distribution of 55 respondents is as follows: 9 (30%) respondents with an Elementary School education level, 10 (33.3%) respondents with a Junior High School education level, and 11 (36.7%) respondents with a Senior High School education level. The Senior High School education level group has the highest number of respondents, totaling 11 (36.7%). The high level of Senior High School education is due to the research location being in Sukabumi Regency, according to the Central Statistics Agency (BPS) of Sukabumi Regency in 2020, the highest level of education among the population is Senior High School equivalent to 54.1%. This aligns with the 12-year mandatory education initiative driven by the government. The number of pregnant women in this group is in line with a study by Asri Wanda, showing that 46.9% of respondents were at the intermediate education level (Loke & Chan, 2013; Zhang et al., 2018; De Jager et al., 2014; Kim et al., 2018).

Mothers of infants and toddlers aged 21-40 years constitute the largest age group in this study, accounting for 63.3%. Pregnant women aged 18-28 years are the smallest group, comprising 36.7% of respondents. Based on preliminary data at Cidahu Health Center, 60% of mothers of infants and toddlers aged 18-25 years follow the modern trend of replacing breastfeeding with formula milk due to the lack of knowledge about exclusive breastfeeding. The prevalence of mothers of infants and toddlers switching to formula milk is consistent with Wuthrich-Reggio’s research, which found that mothers aged 26-42 years are three times more likely to breastfeed than those aged 18-25 years. Older mothers tend to have higher education, marital status, and multiparity, allowing for breast pumping (Wuthrich-Reggio, 2008). According to a study by Bayley et al., older mothers have a more positive attitude toward breastfeeding, influenced by psychological factors. Younger mothers are more likely to express shame when breastfeeding in the presence of others (Bayley et al., 2008), leading to growth inhibition and efforts to increase stunting.
Table 2
Level of knowledge of pregnant women

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (n) = 30</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Pregnant Women Before or Pre Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (Score &lt; 60)</td>
<td>7</td>
<td>23,3</td>
</tr>
<tr>
<td>Moderate (Score 60-75)</td>
<td>21</td>
<td>70</td>
</tr>
<tr>
<td>Good (Score 76-100)</td>
<td>2</td>
<td>6,7</td>
</tr>
<tr>
<td>Knowledge of Pregnant Women After or Post Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (Score &lt; 60)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Moderate (Score 60-75)</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Good (Score 76-100)</td>
<td>27</td>
<td>90</td>
</tr>
</tbody>
</table>

The respondents' knowledge levels in the Pre-Test and Post-Test calculations are categorized into three levels: good knowledge, moderate knowledge, and low knowledge. The results of the Pre-Test for respondents with good knowledge, obtaining a score of 76-100, moderate knowledge with a score of 60-75, and low knowledge with a score < 60, with an average score of 62. The distribution of respondents is as follows: 2 (6.7%) respondents with good knowledge, 21 (70%) respondents with moderate knowledge, and 7 (23.3%) respondents with low knowledge. In the Post-Test results, respondents with good knowledge obtained a score of 76-100, those with moderate knowledge scored 60-75, and those with low knowledge scored < 60, with an average score of 84. The distribution of respondents is as follows: 27 (90%) respondents with good knowledge, 3 (10%) respondents with moderate knowledge, and 0 (0%) respondents with low knowledge (Utami et al., 2019; Perkins et al., 2017; Mahaliav & Ramadhani, 2022; Kusfriyadi & Nabilah, 2022).

Figure 1. Level of knowledge of pregnant women, mothers of infants, and toddlers

The results show that the average score before exclusive breastfeeding counseling is 62%, while the average score after counseling is 84%, indicating a significant difference in knowledge about exclusive breastfeeding before and after counseling, with an average knowledge increase of 22%, calculated from the Pre-Test and Post-Test using Microsoft Excel. These results demonstrate the success of the applied education method and means.

Figure 2. Average pre-test and post-test values
Based on Figure 2, all respondents obtained an average Post-Test score greater than the Pre-Test score, indicating an increase in knowledge of pregnant women, mothers of infants, and toddlers regarding Exclusive Breastfeeding in Cidahu Health Center. From the data recapitulation obtained after the implementation of the Post-Test, it is found that the increase in insight among pregnant women, mothers of infants, and toddlers occurred due to explanations related to knowledge that they had not mastered.

Table 3
Average pre-test and post-test

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test knowledge</td>
<td>62.00</td>
<td>11.265</td>
</tr>
<tr>
<td>Post-test knowledge</td>
<td>84.00</td>
<td>6.747</td>
</tr>
</tbody>
</table>

Based on Table 3, from the paired sample test analysis, it can be seen that the average pretest result of 62.00 becomes 84.00, with an increase of 22 points.

Table 4
Results of the T-test analysis of maternal knowledge

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Mean Difference</th>
<th>Standard Deviation</th>
<th>T Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test knowledge</td>
<td>-22.00</td>
<td>10.306</td>
<td>-11.692</td>
<td>0.000</td>
</tr>
<tr>
<td>Post-test knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 4, a t-value of -11.692 and p = 0.000 (p < 0.05) were obtained, indicating a significant effect on maternal knowledge in health education about the Importance of Exclusive Breastfeeding in Stunting Prevention Efforts.

The results of this study indicate that the majority of mothers aged 21-40 years constitute 50 respondents (63.3%). Age has a significant influence on the development, knowledge, and behavior of mothers because the higher the age, the easier it is to receive information that has been conveyed (Sari, 2021). Conceptually, the age group of 20-30 years is based on the effective age for breastfeeding production.

In this study, the highest education level is Senior High School (SLTA) with 11 respondents (36.7%), and based on the pre-test results, the majority have a moderate level of knowledge with scores ranging from 60 to 75. This aligns with a study by Sumarni in 2021 in Yogyakarta, stating that the failure of exclusive breastfeeding is influenced by factors such as the level of education, knowledge, and occupation of the mother. Experience and family support also affect the success of exclusive breastfeeding (Sumarni et al., 2021).

The analysis taken by the study from the above results is that age, education, and the knowledge level of mothers significantly affect the provision of Exclusive Breastfeeding to infants. In the researcher's area, young maternal age and low education levels during the first childbirth may hinder the practice of Exclusive Breastfeeding due to the mother's young age and inability to assimilate information about Exclusive Breastfeeding. This can lead to infant stunting (Nurmawati et al., 2015).

Exclusive Breastfeeding: The results of this study show that 60% of mothers did not practice Exclusive Breastfeeding. This can happen due to the lack of knowledge among mothers about Exclusive Breastfeeding, possibly because of their low educational background. The majority of mothers in the study had completed Senior High School (SLTA), accounting for 11 mothers, and the average age of mothers was in the range of 21-43 years, with 19 mothers. This could result in mothers having insufficient knowledge about Exclusive Breastfeeding and not having the opportunity to provide exclusive breastfeeding to their infants due to the modern trend of replacing breast milk with formula milk (Fatimah et al., 2023).

This aligns with previous research indicating that the non-provision of Exclusive Breastfeeding is influenced by several factors. In line with Fatimah's 2023 study, there is a significant relationship between the mother's knowledge level about Exclusive Breastfeeding and the practice of Exclusive Breastfeeding at Cidahu Health Center, Cidahu Village (Fatimah et al., 2023). These results are also supported by Arifin's 2012 study, which found that the most significant factor causing the failure of Exclusive Breastfeeding is the factor of knowledge. The study found that 51.35% of mothers did not provide Exclusive Breastfeeding because they did not know about it, and other reasons included working (18.92%), insufficient breast milk (16.22%), and the mother feeling that her baby was not full with only breast milk (13.51%) (Arifin et al., 2022).
The researcher's analysis suggests that the failure to provide Exclusive Breastfeeding in the study area is due to the age, education, and knowledge of the mothers. This could result in mothers failing to provide Exclusive Breastfeeding because, in the researcher's area, receiving health information is still limited, and cultural influences still tend to lead mothers to give honey to newborns immediately after birth.

Stunting: Mother's characteristics also need to be considered because stunting is a chronic condition that arises as a result of long-term factors such as poverty, inappropriate parenting due to busy parents, poor maternal knowledge about nutrition due to low maternal education, and recurrent illnesses due to poor hygiene and sanitation (Ekayanthi & Purnamasari, 2020). Characteristics such as the mother's education level, age, and others are crucial considerations. For instance, the education level determines how easily someone absorbs and understands acquired nutritional knowledge. While formal education indirectly affects a mother's ability to absorb nutritional knowledge, a mother's education determines the level of nutritional knowledge. The higher the mother's education, the higher her ability to absorb practical knowledge and non-formal education, especially through television, newspapers, radio, and others (Kartika et al., 2021).

The results of this study show that there are 54 children in the stunting category, divided into 93 respondents (58.1%), while 39 respondents (41.9%) are not stunting. Normal height is a state where height corresponds to the child's age. Height is an essential parameter for assessing growth and development, especially in toddlers (Kartika et al., 2021). Normal height in children can be influenced by factors such as adequate nutrition for toddlers. Adequate nutrition for children is highly influenced by the family's economic status; families with high economic status tend to be able to meet nutritional needs well and can provide more food variety for their children. Another factor that affects the child's normal condition is the composition of the food that meets nutritional needs. A mother who can provide the best nutrition for her child is one who has good knowledge of nutrition that can be applied in daily life. Someone's knowledge about something is closely related to education. The research results show that out of 30 respondents, there are 11 respondents with a Senior High School (SMA) education level, and they have children with normal height, accounting for 39 respondents (Kartika et al., 2021).

Amalia's 2020 study shows that the mother's education level affects the caloric intake of toddlers, which can determine the nutritional status of toddlers. Stunting is more prevalent in toddlers of male gender compared to females. This is consistent with Amalia's study conducted in Madagascar, where the incidence of stunting in boys is higher than in girls (Amalia et al., 2022). The researcher's analysis of the occurrence of stunting in the study area is seen from the factors of maternal age and education. The lack of balanced nutrition from pregnancy to the age of 24-49 months in mothers and infants in the researcher's area can lead to the failure of nutritional fulfillment, resulting in stunting.

Relationship between Exclusive Breastfeeding and the Incidence of Stunting: The study results show that most respondents in the stunting category did not receive Exclusive Breastfeeding, accounting for 45 respondents (48.4%). The majority of respondents in the non-stunting category mostly received Exclusive Breastfeeding, with 22 respondents (23.7%). Most respondents in the non-stunting category did not receive Exclusive Breastfeeding, accounting for 17 respondents (18.3%), and respondents in the stunting category who received Exclusive Breastfeeding were 9 respondents (9.7%). The relationship between Exclusive Breastfeeding and the incidence of stunting in infants aged 24-59 months was investigated, resulting in a p-value of 0.000 (0.000 < 0.05). Thus, it is concluded that there is a relationship between Exclusive Breastfeeding and the incidence of stunting in infants aged 24-59 months.

Breast milk is a nutritionally appropriate intake that supports the growth and development of children. Infants who do not receive sufficient breast milk have inadequate nutritional intake, which can lead to malnutrition, one of which can cause stunting. According to Handajani et al. (2018), one of the benefits of Exclusive Breastfeeding is supporting the growth of babies, especially their height, as breast milk calcium is more efficiently absorbed than formula milk or milk substitutes. Thus, infants who receive Exclusive Breastfeeding tend to have higher heights, aligned with the growth curve, compared to infants given formula milk. Breast milk contains more calcium and can be well absorbed by the body, maximizing growth, especially height, and avoiding the risk of stunting. Breast milk also has lower levels of calcium, phosphorus, sodium, and potassium than formula milk, while copper, cobalt, and selenium are present in higher amounts. The content of breast milk meets the needs of infants, maximizing their growth, including height. Based on this, it can be ensured that the nutritional needs of infants are met, and their nutritional status becomes normal in terms of both height and weight if infants receive Exclusive Breastfeeding (Sumarni et al., 2021).

These results are consistent with previous research by Arifin, titled "Analysis of Distribution and Risk Factors for Stunting in Toddlers in Purwakarta Regency 2012." The multivariate analysis results showed that the most dominant factor influencing stunting is Exclusive Breastfeeding, accounting for 3.1% (Arifin et al., 2022). The results of this
study are also in line with Agus Henra's research on the incidence of stunting in toddlers in Banda Aceh, caused by non-exclusive breastfeeding at 4 times (p = 0.002, with OR = 4.2). The results are also consistent with Sr. Anita Sampe, SJMJ's research on the relationship between Exclusive Breastfeeding and the incidence of stunting in 66 toddlers. In the odds ratio test, an OR value of 61 was obtained, meaning that toddlers not given Exclusive Breastfeeding are 61 times more likely to experience stunting compared to those given Exclusive Breastfeeding. Exclusive Breastfeeding can reduce the risk of stunting (Sudigyo et al., 2023; Saleh et al., 2021; Grantham-McGregor et al., 1996).

According to the researcher's analysis, the failure of Exclusive Breastfeeding in the researcher's area and the high incidence of stunting are due to local customs, as the provision of immediate complementary feeding to infants is prevalent due to the mother's busy schedule. This results in a reduction in the provision of care to infants and the exclusive provision of breast milk cannot be implemented (Sumarni et al., 2021). The researcher's area is also a difficult region, and environmental hygiene is still far from clean, as stated in the health pillar environmental hygiene affects the incidence of stunting.

Conclusion

The majority of mothers participating as respondents in the research conducted in the Puskesmas Cidahu area have completed high school education (SMA), accounting for 11 individuals (36.7%), with most mothers having toddlers falling within the age range of 21 to 43 years (63.3%). Exclusive breastfeeding in the Puskesmas Cidahu work area stands at 33.3%, derived from 93 mothers with toddlers. However, the majority, constituting 67.7%, do not practice exclusive breastfeeding, indicating that this figure has yet to meet the national target. The prevalence of stunting in the Puskesmas Cidahu area is 58.1%, a figure significantly distant from the set target. The research indicates a correlation between exclusive breastfeeding and the occurrence of stunting in toddlers aged 24-59 months in the Puskesmas Cidahu in 2022, with a p-value of (0.000 < 0.05). The results of this research can be utilized as a useful guide for upcoming studies, promoting the investigation of additional elements linked to the occurrence of stunting in children between 24 and 59 months old. These may encompass examining the connection with the nutritional status and economic circumstances of families.

Acknowledgments

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