

The role of families of smokers and adherence to exclusive breastfeeding as risk factors for stunting in toddlers

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ABSTRACT

Stunting is one of the chronic nutritional problems that remains a public health issue in Indonesia, including in Aceh Province. Various factors contribute to the incidence of stunting, including smoking behavior in the family and adherence to exclusive breastfeeding. This study aims to determine the relationship between the role of smoking families and adherence to exclusive breastfeeding as risk factors for stunting in toddlers in Tuha Village, Trienggadeng District, Pidie Jaya Regency. This study is a quantitative study with a cross-sectional design. The population in this study was all toddlers in Tuha Village with a sample size of 46 toddlers taken using simple random sampling. Data were collected through interviews using questionnaires and analyzed using univariate and bivariate analyses. Bivariate analysis was performed using logistic regression with a statistical significance level of $p < 0.05$. The results showed that most toddlers had normal nutritional status (43.48%), but there were still toddlers with poor nutritional status (43.48%) and malnutrition (10.87%). The results of the bivariate analysis showed a significant relationship between the role of smoking families and the nutritional status of toddlers ($p = 0.002$; OR = 0.12; 95% CI: 0.03–0.47). Meanwhile, exclusive breastfeeding compliance did not show a significant relationship with the nutritional status of toddlers ($p = 0.940$; OR = 0.94; 95% CI: 0.17–5.09).

Keyword : *stunting, smoking families, exclusive breastfeeding, nutritional status, toddlers*

ABSTRAK

Stunting merupakan salah satu permasalahan gizi kronis yang masih menjadi isu kesehatan masyarakat di Indonesia, termasuk di Provinsi Aceh. Berbagai faktor berkontribusi terhadap kejadian stunting, di antaranya perilaku keluarga perokok dan kepatuhan pemberian ASI eksklusif. Penelitian ini bertujuan untuk mengetahui hubungan peran keluarga perokok dan kepatuhan pemberian ASI eksklusif sebagai faktor risiko stunting pada balita di Desa Tuha, Kecamatan Trienggadeng, Kabupaten Pidie Jaya. Penelitian ini merupakan penelitian kuantitatif dengan desain cross sectional. Populasi dalam penelitian ini adalah seluruh balita di Desa Tuha dengan jumlah sampel sebanyak 46 balita yang diambil menggunakan teknik simple random sampling. Data dikumpulkan melalui wawancara menggunakan kuesioner dan dianalisis secara univariat dan bivariat. Analisis bivariat dilakukan menggunakan regresi logistik dengan tingkat kemaknaan statistik $p < 0,05$. Hasil penelitian menunjukkan bahwa sebagian besar balita memiliki status gizi normal (43,48%), namun masih ditemukan balita dengan status gizi kurang (43,48%) dan gizi buruk (10,87%). Hasil analisis bivariat menunjukkan terdapat hubungan yang signifikan antara peran keluarga perokok dengan status gizi balita ($p = 0,002$; OR = 0,12; CI 95%: 0,03–0,47). Sementara itu, kepatuhan pemberian ASI eksklusif tidak menunjukkan hubungan yang signifikan dengan status gizi balita ($p = 0,940$; OR = 0,94; CI 95%: 0,17–5,09).

Kata kunci : stunting, keluarga perokok, ASI eksklusif, status gizi, balita

1. INTRODUCTION

Stunting remains a serious global health issue. According to the World Health Organization (WHO, 2023), stunting is a condition of growth failure due to chronic malnutrition, particularly in the first 1,000 days of life. Stunted children are not only shorter than their age, but also at risk of low cognitive abilities and reduced productivity in the future. The WHO also highlights that exposure to household cigarette smoke and low exclusive breastfeeding practices are major risk factors for stunted growth. Globally, an estimated 149 million children under 5 years of age will experience stunting in 2023 (WHO, 2023).

In Indonesia, the Indonesian Ministry of Health (2023) reported that the national stunting prevalence remains at 21.5%, down from 24.4% in 2021, but still above the target of 14% by 2024 as outlined in the National Action Plan for the Acceleration of Stunting Reduction (RAN-PASTI). In addition to nutritional issues, smoking in the home is also a major challenge. Basic Health Research (Riskesmas) data (2023) shows that approximately 60% of Indonesian children are exposed to cigarette smoke at home, which contributes to stunted growth and lower success rates of exclusive breastfeeding. Research in Indonesia shows that mothers living with active smokers are twice as likely to fail to provide exclusive breastfeeding (Rahmawati & Widodo, 2020; Mahendra & Wulandari, 2020).

Aceh Province is among the top 10 provinces with the highest stunting rates in Indonesia. According to data from the Aceh Health Office (2023), the prevalence of stunting reached 28.3%, while exclusive breastfeeding coverage was only 69%. Contributing factors include local culture, which considers

smoking normal within the family environment, and the lack of education about the importance of exclusive breastfeeding for child development.

Meanwhile, in Pidie Jaya Regency, the stunting prevalence in 2023 was recorded at 26.9%, with exclusive breastfeeding coverage of only 64.5% (Pidie Jaya Health Office, 2023). Monitoring results indicate that the majority of toddlers with stunting come from households with active smoking family members. This habit hinders optimal child nutrition and contributes to unhealthy household environments.

A 2024 report from the Trienggadeng Community Health Center (Puskesmas) showed that of the 350 toddlers monitored, approximately 25.8% experienced stunting, and more than half came from smoking families. Furthermore, only about 62% of mothers exclusively breastfed for the first six months. This suggests a strong correlation between family smoking and maternal adherence to exclusive breastfeeding and the risk of stunting.

In Tuha Village, Trienggadeng District, smoking indoors is still very common, even near children. Furthermore, sociocultural factors and maternal knowledge about the importance of exclusive breastfeeding remain low. Family support in creating smoke-free homes and assisting mothers in exclusively breastfeeding are crucial to reducing stunting cases in this area.

One important environmental factor contributing to stunting is exposure to cigarette smoke in the family environment. Children living in households with smoking family members are at greater risk of stunted growth due to exposure to secondhand smoke, which can cause respiratory problems, reduce immunity, and interfere with nutrient absorption (Rahmawati et al., 2022).

Another study showed that children living in smoking households are almost

twice as likely to experience stunting as children living in smoke-free environments (Wulandari et al., 2021).

Furthermore, maternal adherence to exclusive breastfeeding during the first six months of life also plays a significant role in a child's nutritional status. Exclusive breastfeeding provides optimal nutrition and antibodies needed by babies for healthy growth (Sari & Pratiwi, 2020). However, data shows that the exclusive breastfeeding rate in Indonesia remains relatively low, at around 66.7% (Central Statistics Agency [BPS], 2023). This low figure is often influenced by a lack of family support, especially from husbands or family members who have a smoking habit (Indonesian Ministry of Health, 2024).

The combination of household exposure to cigarette smoke and non-compliance with exclusive breastfeeding can increase the risk of stunting. Research by Rahmawati et al. (2022) reported that toddlers who are not exclusively breastfed and live in smoking families are 2.3 times more likely to experience stunting than toddlers not exposed to these two factors. Therefore, understanding the role of smoking families and adherence to exclusive breastfeeding is crucial for establishing nutritional interventions and promoting family health.

By examining these two factors, research can significantly contribute to developing strategies and policies to sustainably reduce the prevalence of stunting in Indonesia (UNICEF, 2023; WHO, 2024). Therefore, this study is crucial to identify the extent to which smoking families and adherence to exclusive breastfeeding are risk factors for stunting in toddlers in the Trienggadeng Community Health Center (Puskesmas) area.

This situation highlights the need for in-depth research on the role of smoking families and adherence to exclusive breastfeeding as risk factors for stunting in toddlers in Tuha Village, to inform family-based interventions at the village level.

METHOD

This research is a quantitative study with a descriptive analytical approach using a cross-sectional design, where data collection on the independent variables (the role of family smokers and compliance with exclusive breastfeeding) and the dependent variable (the incidence of stunting in toddlers) was carried out simultaneously. The study was conducted in Tuha Village, Trienggadeng District, Pidie Jaya Regency, Aceh Province, in October 2025. The study population consisted of 52 toddlers domiciled in Tuha Village. Sampling was carried out using the Simple Random Sampling technique, namely the selection of sample members randomly without considering certain strata in the population. The inclusion criteria in this study included toddlers domiciled in Tuha Village, aged 0–59 months, and mothers or surrogates who were willing to be research respondents. Meanwhile, exclusion criteria included toddlers who were not present at the location during data collection and toddlers with incomplete height or age data.

2. RESULT

Based on the role of family smokers, the majority of respondents came from non-smoking families (31 respondents (67.39%)), while 15 respondents (32.61%) came from smoking families. This indicates that although the majority

of families do not smoke, a significant proportion of families with smokers can potentially negatively impact the health of toddlers.

Regarding compliance with exclusive breastfeeding, the majority of mothers exclusively breastfed their babies (41 respondents (89.13%), while 5 respondents (10.87%) did not. This indicates that exclusive breastfeeding coverage in the study area is quite good.

The average age of children was 33.28 months (SD \pm 14.02), with an age range of 4 to 54 months. Based on gender, there were 24 boys (52.17%), while there were 22 girls (47.83%), resulting in a relatively balanced gender distribution.

The results of the logistic regression analysis showed a p-value of 0.002 ($p < 0.05$), which means there is a significant relationship between the role of family smokers and the nutritional status of toddlers. The Odds Ratio (OR) value of 0.12 with a 95% Confidence Interval (CI) of 0.03–0.47 indicates that toddlers who come from non-smoking families have a lower chance of experiencing nutritional problems than toddlers who come from smoking families. In other words, the presence of smoking families is a risk factor for nutritional status disorders in toddlers.

3. DISCUSSION

This discussion outlines and interprets the research findings presented in the results section, linking them to relevant theories, concepts, and previous research findings. This study aims to determine the relationship between the role of family smokers and adherence to exclusive breastfeeding on the nutritional status of toddlers in Tuha Village, Trienggadeng District, Pidie Jaya Regency.

The results of the univariate analysis indicate that although most toddlers have normal nutritional status, a relatively high proportion of toddlers are malnourished and severely malnourished. This indicates that nutritional problems in toddlers remain a public health issue in Tuha Village. Toddler nutritional status is an important indicator in assessing the quality of a child's growth and development, which is influenced by various factors such as nutritional intake, parenting styles, the environment, and the child's health condition.

The high proportion of toddlers with malnutrition and severely malnourished indicates a continued risk of stunting if appropriate interventions are not implemented. This aligns with the theory that chronic malnutrition during infancy can have long-term impacts on physical growth, cognitive development, and productivity in adulthood.

The results of the bivariate analysis indicate a significant relationship between the role of family smokers and the nutritional status of toddlers. A p-value of less than 0.05 indicates that family smoking is a factor associated with the nutritional status of toddlers in the study area. The odds ratio obtained indicates that toddlers from smoking families have a greater risk of experiencing nutritional problems than toddlers from non-smoking families.

Theoretically, exposure to cigarette smoke in the household environment can negatively impact toddlers' health. Cigarette smoke contains various toxic substances that can disrupt the respiratory system, increase the risk of infection, and weaken a child's immune system. This condition can cause toddlers to become sick more often, resulting in a decreased appetite and

suboptimal nutrient absorption. In the long term, this condition can contribute to growth disorders and nutritional problems, including stunting..

CONCLUSION

Based on the results of research and discussion regarding the role of smoking families and compliance with exclusive breastfeeding on the nutritional status of toddlers in Tuha Village, Trienggadeng District, Pidie Jaya Regency, it can be concluded that most toddlers have normal nutritional status, although there is still a fairly high proportion of toddlers with undernutrition and severe malnutrition. This condition indicates that nutritional problems remain a significant issue in public health in the region. The results of the analysis also show a significant relationship between the role of smoking families and the nutritional status of toddlers, where children who grow up in smoking families are at higher risk of experiencing nutritional problems compared to those from non-smoking families. Meanwhile, no significant relationship was found between compliance with exclusive breastfeeding and the nutritional status of toddlers. This finding indicates that the nutritional status of toddlers is not only influenced by exclusive breastfeeding, but also by other factors such as eating patterns after the age of six months, a history of infectious diseases, and the family environment.

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