

# The Analysis Relationship of Exclusive Breastfeeding with Psychosocial Problems in Children Aged 4-6 Years



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## ABSTRACT

**Introduction:** Psychosocial health is one of the most important factors in achieving optimal growth and development in children. The increase in psychosocial problems among children has been accompanied by a decrease in the rate of exclusive breastfeeding over the past two years. Another important aspect is the history of natural disasters such as tsunamis, military operations, and the implementation of Islamic law in Aceh. This research aims to explore the relationship between exclusive breastfeeding and psychosocial problems in children in the city of Banda Aceh.

**Methods:** The research method employed in this study is an analytical observational design with a cross-sectional approach. The population of this research comprises all children aged 4-6 years old. Samples were obtained using a cluster sampling technique involving 296 children from 5 villages around one of the public health centers in Banda Aceh. Data analysis in this study is conducted using a logistic regression test.

**Results:** The results of the study indicate that the percentage of children aged 4-6 years in Banda Aceh have received exclusive breastfeeding is 261 children (88.18%). In contrast, the number of children with psychosocial problems based on the Pediatric Symptom Checklist 17 is 27 children (9.12%).

**Conclusion:** There is a significant relationship between exclusive breastfeeding and psychosocial problems in children aged 4-6 years in the working area of the Baiturrahman Public Health Center in Banda Aceh. Children who did not receive exclusive breastfeeding have a 5 times higher risk of experiencing psychosocial disorders compared to children who received exclusive breastfeeding during the first 6 months of life.

**Keywords:** Exclusive breastfeeding, psychosocial problems, children, pediatric symptom checklist 17, Aceh.

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## INTRODUCTION

Psychosocial health is a state that describes the effort of individuals to adapt to their environment and experiences. Psychosocial health problems can occur when there are obstacles in the process of adaptation.<sup>1</sup> Experiences influence psychosocial health during human developmental milestones in earlier periods of a child's development. Positive psychosocial development in children will manifest positively in their subsequent stages of development, contributing to the formation of a mentally healthy generation.<sup>2</sup>

Globally, nearly 15% of adolescents aged 10 to 19 years have a mental health disorder, accounting for 13% of the global burden of disease in this age group. In

2016, nearly 20% of children aged 2 to 8 years old in the US States (17.4%) have been diagnosed with a mental, behavioral, or developmental disorder. In 2018-2019, about 15% of adolescents 12 to 17 years old experienced a major depressive episode, 37% had persistent feelings of sadness or hopelessness, and nearly 20% reported seriously considering suicide.<sup>3</sup> The number of individuals with psychosocial disorders has been on the rise worldwide during the pandemic, including in Banda Aceh. According to the Banda Aceh City Health Office in 2020, there were 527 individuals classified with mental disorders, with Baiturrahman Health Center having a higher number of patients compared to other primary health centers in Banda Aceh, with 78 patients.<sup>4</sup>

The prevalence of psychosocial

disorders is the result of aggregating the impacts of previous conditions, including the growth and developmental period.<sup>5</sup> The crucial period for a child's growth and development begins with the first 1000 births. Rapid basic development occurs at this age, which can influence and determine the child's subsequent development. The development continues as the child grows, involving moral and personality development. This process requires stimulation and support to ensure the child's potential develops optimally according to their developmental stage, making parental attention crucial.<sup>6</sup>

The success of growth and development represents the child's brain development, including intelligence, gross and fine motor skills, social skills, and psychosocial development. This success cannot be

achieved without proper nutrition and breastfeeding, which is the best source of nutrition for the child's brain development.<sup>6</sup> Breastfeeding establishes physical contact between the child and the mother, along with affectionate words and expressions, stimulating the baby's psychosocial development.<sup>5</sup> Breast milk strengthens the emotional bond. Early skin contact will affect the baby's development. Although a mother can show love by feeding her baby formula, breastfeeding has significant psychological effects. Feeling safe is very important in building a baby's foundation of trust. Specifically, when children begin to trust another person, they will develop a sense of confidence.<sup>7</sup>

Despite the many benefits of breastfeeding for both mother and child, the percentage of exclusive breastfeeding achievement is not as high. The World Health Assembly (WHA) reported that the achievement of exclusive breastfeeding was only 38 percent and targeted to reach at least 50 percent by 2025.<sup>8</sup> In 2019, Indonesia's percentage of exclusive breastfeeding achievement was 67.74%. While this surpassed the target of 50% in the strategic plan 2019, some provinces still need attention, including Aceh (55.24%). Aceh is also among the ten provinces with the lowest coverage of exclusive breastfeeding in 2019.<sup>9</sup> The Profile of Banda Aceh Health in 2020 showed an exclusive breastfeeding rate of 65% in the city, with Baiturrahman Health Center ranking fifth with a rate of 60.3%, and two other primary health centers with rates below 50%, namely Lampaseh Kota Health Center and Banda Raya Health Center.<sup>4</sup>

Research on the relationship between exclusive breastfeeding and child development among children aged 12-36 months found that children breastfed for less than 4 months had a 7.325 times higher risk of experiencing developmental deviations. On the other hand, children who were breastfed exclusively had a 5.474 times greater chance of optimal development compared to those who did not receive exclusive breastfeeding.<sup>10,11</sup> Exclusive breastfeeding plays a crucial role in a child's development and psychosocial health. However, other factors such as maternal attitudes, knowledge,

education, and the child's birth weight also contribute to this development.<sup>2</sup> Nonetheless, other research indicates that breastfeeding does not significantly affect a child's psychosocial development, with psychosocial stimulation being the most dominant factor influencing the child's development.<sup>12</sup> Given the mixed findings and the limited research on the relationship between breastfeeding history and psychosocial problems in children, researchers are interested in investigating the connection between exclusive breastfeeding and psychosocial problems in children aged 4-6 years.

## METHOD

The design of this study was a quantitative study using observational analytics with a cross-sectional design of primary and secondary data. This research was conducted in the working area of the Public Health Center, Baiturrahman District, Banda Aceh City. The population of this study consisted of all children aged 4-6 years in the Baiturrahman Health Center working area in Banda Aceh City, totaling 928 individuals. The sample was selected using a probability sampling method with a cluster random sampling type. The sample for this study was 296 children aged 4-6 years from the Baiturrahman Health Center working area in Banda Aceh City who participated as respondents. The inclusion criteria were children with a history of breastfeeding, kids between the ages of four and six, participants in good physical and mental health, and kids and their parents who agreed to participate in the study. Respondents with mental illnesses and those who provided insufficient information on the questionnaire were excluded from this study.

The data used in this study were primary data obtained from the Pediatric Symptom Checklist-17 (PSC-17) questionnaire instrument, a screening tool used for children aged 4-18 years. This standardized questionnaire comprises 17 questions, each divided into several subscales, including the externalization subscale with 7 questions, the internalization subscale with 5 questions, and the attention subscale with 5 questions. Each question has weights of

0, 1, or 2. The weights for each subscale are added to obtain a total score, which is used as an overall score. This questionnaire has been validated and can be used as a screening tool for psychosocial problems in children, with a sensitivity of 69.2% and a specificity of 95.6%.<sup>13</sup> Direct interviews with parents of children were utilized to gather the main data for this study, which evaluated the children's psychological issues. The researcher additionally used secondary data, like the breastfeeding status, which includes details accessible at the Baiturrahman Sub-district Community Health Center. Using information from the Mother and Child Health book, this secondary data was utilized to validate the variable assessing the exclusive breastfeeding status of the study subjects' children.

Data collection techniques in this research include: 1. Request data on children aged 4-6 years from the Baiturrahman Community Health Center; 2. Take samples from the number of children aged 4-6 years who received exclusive and non-exclusive breastfeeding 4-6 years ago. Carry out data selection using inclusion and exclusion criteria; 3. Researchers used cluster sampling techniques by collecting data representing the working areas of the Baiturrahman Community Health Center, including the villages of Ateuk Munjeng, Ateuk Pahlawan, Neusu Aceh, Peuniti, and Seutui; 4. Researchers asked for the help of five enumerators, namely trained health workers, to assist with research for almost two months, starting from November 4, 2021, to December 23, 2021; 5. Researchers interviewed the enumerators regarding how to fill out the questionnaire regarding general information, exclusive breastfeeding status, and children's psychosocial problems on November 2, 2021; 6. The researcher appointed each enumerator responsible for all respondents from each village. The first enumerator was responsible for Ateuk Munjeng Village and was responsible for collecting information from 59 respondents; the second enumerator was 55 respondents in Ateuk Pahlawan Village; the third enumerator was 59 respondents in Neusu Village, Aceh; the fourth enumerator was 61 respondents in Peuniti Village; and

the last enumerator was 61 respondents in Peuniti Village. Fifty-two respondents from Seutui Village. The researcher or enumerator collects the data obtained from the observations. Perform data processing and analyze research results.

The data collected were analyzed using univariate and bivariate analysis, with the regression logistic test specifically employed for the bivariate analysis. The Common Odds Ratio (COR) and Adjusted Odds Ratio (AOR), which incorporate adjusting factors such as age and gender, are both used in this study's analysis.

## RESULT

The respondents in this study were children aged four to six years who lived in the working area of Baiturrahman Public Health Center, Banda Aceh. Table 1 presents an overview of the frequency distribution of respondents' characteristics, including gender, age, and ethnicity.

The distribution of respondents' characteristics shows that most respondents are male, totaling 150 children (50.68%), while female respondents were 146 children (49.32%). According to age, the highest number of respondents came from the age of 5 years, with 102 children (34.46%). The age groups of 6 and 4 years had an equal number of respondents, each consisting of 99 children (33.45%) and 95 children (32.09%), respectively. Furthermore, based on ethnicity, the highest number of respondents came from Aceh, with 285 children (96.28%). Other ethnic groups included Java, with 8 children (2.70%), and Karo with 3 children (1.01%).

Table 1 also shows that 27 children (9.12%) had disturbed psychosocial conditions, while 269 other children (90.88%) had undisturbed psychosocial conditions. Based on the results of interviews conducted with the parents of respondents, validated with data from the Baiturrahman Health Center KIA's book,

it was found that 261 children (88.18%) received exclusive breastfeeding. In comparison, 35 children (11.82%) did not receive exclusive breastfeeding in the first six months of life.

Table 2 shows the relationship between exclusive breastfeeding and psychosocial problems in children. Based on the cross-tabulation results in Table 2, it can be observed that there were 10 children (28.57%) who had psychosocial problems and a history of not receiving exclusive breastfeeding. In comparison, there were 244 healthy children (93.49%) without psychosocial problems and a history of exclusive breastfeeding.

In the statistical test with a significance level of 95% and  $\alpha=0.05$ , the p-value was 0.0001, indicating a significant relationship between not receiving exclusive breastfeeding and psychosocial problems in children in the Baiturrahman District, Banda Aceh. Children who did not receive exclusive breastfeeding were found to have a 5 times greater risk of experiencing psychosocial problems compared to children who received exclusive breastfeeding in the first six months of life (COR=5.7, 95%CI=1.81-10.73).

Furthermore, in the adjusted model, considering the age variable of the children, the obtained p-value was 0.0001, indicating a significant relationship between not receiving exclusive breastfeeding and psychosocial problems in children aged 4-6 years in the Baiturrahman District, Banda Aceh. Children who did not receive exclusive breastfeeding were found to have a 5 times greater risk of experiencing psychosocial problems compared to children who received exclusive breastfeeding in the first six months of life (AOR=5.02, 95%CI=2.04-12.35).

**Table 1. The Characteristics of Respondents and Frequencies or Percentage of Psychosocial Problems and Exclusive Breastfeeding**

Variables	Frequencies (n)	Percentage (%)
<b>Characteristics of Respondents</b>		
Gender		
Male	150	50,68
Female	146	49,32
Age		
4 years old	95	32,09
5 years old	102	34,46
6 years old	99	33,45
Ethnic		
Aceh	285	96,28
Karo	3	1,01
Jawa	8	2,70
Psychosocial Problems		
Yes	27	9,12
No	269	90,88
Exclusive Breastfeeding		
Exclusive	261	88,18
Non-exclusive	35	11,82

**Table 2. The Relationship Between Exclusive Breastfeeding and Psychosocial Problems in Children**

Exclusive Breastfeeding	Psychosocial Problems				Total		COR (95% CI), P	AOR (95% CI), P
	Yes		No					
	n	%	n	%	n	%		
Exclusive	17	6,51	244	93,49	261	100	1	1
Non-exclusive	10	28,57	25	71,43	35	100	5,7 (2,37-13,88) 0,0001	5,02 (2,04-12,35) 0,0001
Total	27	9,12	269	90,88	296	100		

## DISCUSSION

According to the data distribution table for pediatric psychosocial problems, 27 children (9.12%) had these issues, whereas 268 children (90.88%) were healthy or had no psychosocial problems. Additionally, the data on the frequency distribution of exclusive breastfeeding reveals that 261 mothers (88.18%) provided the bulk of the exclusive breastfeeding, whereas 35 mothers (11.82%) did not. The gap or disparity between the results of this study and the national exclusive breastfeeding rate in 2019, which was 67.74%, makes them fascinating. According to the Health Profile of Banda Aceh in 2020, this discrepancy was also noted locally at a rate of 65%. In contrast to earlier studies that claim the research location was in the city center and accessible to health services, this discrepancy points to a new foundation.

In this Banda Aceh study, there was a correlation between children's psychosocial problems and a p-value of 0.001 and a COR value of 5.7, indicating that children who did not receive exclusive breastfeeding in their first six months of life were nearly six times more likely to have psychosocial problems than those who did. Results from the adjusted analytic model that included confounding elements like the children's age and gender were the same as significant. In the adjusted model, considering the age variable of the children, the obtained p-value was 0.0001, indicating a significant relationship between not receiving exclusive breastfeeding and psychosocial problems in children aged 4-6 years in Banda Aceh city. Children who did not receive exclusive breastfeeding were found to have a five times greater risk of experiencing psychosocial problems compared to children who received exclusive breastfeeding in the first six months of life.

Exclusive breastfeeding offers complete infant nutrition during the first six months of life. Therefore, for newborns to have the best possible growth, development, and health during this time, the World Health Organization (WHO) and the American Academy of Pediatrics (AAP) advise solely consuming breast milk. Then, until the child is at least one year old, WHO

and AAP advise continued nursing with complementary foods.

Breastfeeding provides important health benefits for mothers and infants, with exclusively breastfed babies having lower infant mortality rates, otitis media, and gastrointestinal infections.<sup>14,15</sup> The impact of breastfeeding on children's health appears to persist, as breastfeeding (and a longer duration of breastfeeding) protects against overweight and obesity in children. However, reviews and meta-analyses describe this correlation as small (but consistent) and difficult to prove, with further research needed to clarify the relationship.<sup>16-18</sup> To date, an increasing number of studies indicate the important psychological effects of breastfeeding on children, including its impact on brain development, cognition, and psychosocial well-being.<sup>19</sup>

Breastfeeding can also protect mothers with lower rates of breast and ovarian carcinoma, type 2 diabetes, and postpartum depression.<sup>20-22</sup> However, a study by Borra suggests an increased risk of postpartum depression when women who had planned to breastfeed do not continue breastfeeding, and it concluded that both the intention to breastfeed during pregnancy and maternal mental health during pregnancy mediate the effects of breastfeeding on mothers with depression.<sup>23</sup> Many factors influence a woman's decision to initiate and continue breastfeeding. Social factors, such as cultural and social norms that do not support breastfeeding, concerns about milk supply, low-income family and social support, as well as unsupportive workplace and childcare regulations, can make it difficult for many mothers to achieve their breastfeeding goals. Black women disproportionately experience some of these barriers, such as returning to work shortly after giving birth, a lack of breastfeeding information from providers, and limited access to supportive breastfeeding practices.<sup>24</sup> Healthcare provider practices can also explain the declining breastfeeding rates among black mothers, especially regarding encouragement and breastfeeding information.<sup>25</sup> For rural mothers, factors such as poverty and inadequate access to necessary health and maternity

services can be barriers to breastfeeding, necessitating programs and policies that support mothers planning to breastfeed.<sup>26</sup>

In essence, each child goes through growth and development following their age, but various things affect it.<sup>27</sup> With a p-value of 0.000, indicating a significant relationship between exclusive breastfeeding and the development of children aged 6 to 12 months in the working area of Taba Community Health Center in Lubuklinggau City in 2019.<sup>28</sup> This study is consistent with prior research indicating a relationship between exclusive breastfeeding and the development of babies and the psychosocial well-being of children. The findings of this study are consistent with those of Jennifer, whose research found a link between continued nursing and psychosocial development at age 6 years.<sup>29</sup> The findings of this study contrast with those of Latifah, who discovered that breastfeeding does not alter a child's social-emotional development based on its duration or availability.<sup>12</sup>

The relationship between breastfeeding and the mother-infant relationship is complex, and the method of breastfeeding appears to be the determining factor. Breastfeeding is associated with secure attachment, especially if breastfeeding continues for 6 months after birth, although the underlying mechanisms are unknown. Breastfeeding prioritizes optimal conditions to strengthen the bond between mother and baby, such as increased contact with the baby through breastfeeding and the need to read the baby's signals, especially in the first 3 months of life. However, this condition does not necessarily guarantee establishing a mother-child relationship because it also depends on the quality of the bond built through food.<sup>30</sup>

## CONCLUSION

There is a significant relationship between exclusive breastfeeding and psychosocial problems in children aged 4-6 years in Banda Aceh. Children who did not receive exclusive breastfeeding are at a 5 times higher risk of experiencing psychosocial disturbances compared to children who received exclusive breastfeeding in the first six months of life.

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## CONFLICT OF INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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