

## Analysis of Perceived Vulnerability Based on the Health Belief Model Theory Toward Exclusive Breastfeeding in Stunting Prevention Efforts

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### ABSTRACT

Stunting is a major health problem that occurs in children under 5 years of age and prevalent in developing countries for years. A Toddlers is defined as stunted if the measurement results of the child's body length or height show less than -2 Standard Deviation based on WHO data measurement media. Perception The vulnerability of toddlers suffering from stunting will affect the actions of a mother in making prevention efforts in making prevention efforts. Exclusive breastfeeding is important in the growth and development process that can meet the nutritional needs of children. This study aimed to analyze the perception of vulnerability to exclusive breastfeeding in an effort to prevent stunting. Exclusive breastfeeding in stunting prevention efforts. The research method uses a quantitative research design quantitative research design with a cross sectional approach, the sample studied was as many as 154 mothers of toddlers 6-36 months with purposive sampling technique. Data analysis using Chi-Square test and Logistic Regression Test. The results showed that the independent variables of maternal knowledge and attitude had a significant relationship to the dependent variable of exclusive breastfeeding in an effort to prevent stunting with a p-value of 0.001 and 0.005 (p-value<0.005). The results of multivariate analysis showed that maternal knowledge and attitude were the dominant factors of perception of maternal vulnerability in exclusive breastfeeding in an effort to prevent stunting (p value <0.000). It can be concluded that maternal knowledge and attitudes have a significant relationship with the action of exclusive breastfeeding in preventing stunting in an effort to prevent stunting.



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### KEYWORDS:

Stunting, Health Belief Model, Exclusive Breastfeeding, Perceived Vulnerability

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### INTRODUCTION

Family health and happiness determine health development. The nutritional status of children under five is a measure of health development. When young children in a community have good nutritional status, the well-being of the community is affected<sup>1</sup>. Toddlers are one of the vulnerable groups that suffer from stunting when considering health and nutrition issues, as they are going through a rapid growth phase. If a toddler's Z-score is less than -2 standard deviations for both the height-for-age index (TB/U) and the length-for-age index (PB/U), the child is considered stunted.

Stunting is a serious health problem affecting children under the age of five. By 2022, 144 million children under the age of five will still be stunted, representing approximately 21.3% of all children under the age of five worldwide<sup>2</sup>. Malnutrition is considered the leading cause of morbidity and mortality worldwide, accounting for approximately 45% of deaths in children the age of five <sup>3</sup>.

An estimated 21.6% of children under the age of five are stunted, based on the results of the Indonesian Nutrition Status Survey (SSGI) conducted by the Ministry of Health in 2022. As only two in ten children should be stunted, this figure

exceeds the WHO criteria and indicates that stunting is still a major public health problem in Indonesia. In the province of South Sumatra, the prevalence rate of stunted infants was 18.6%, while in the district of Musi Rawas it was 25.4%<sup>4</sup>.

According to the Health Belief Model Theory, a mother's decision to take preventive measures is influenced by her sense of vulnerability to having a stunted baby. The concept of personal vulnerability, called perceived vulnerability, refers to how people view themselves in terms of whether or not they are more likely to contract a disease. A person is more likely to take action to address a potential problem if he or she believes he or she is more vulnerable. If a mother believes that her child is at risk of stunting, she will take precautions to prevent stunting<sup>5</sup>.

One strategy to prevent child stunting is exclusive breastfeeding, which is essential for children's growth and development. A food that meets all the physical, psychological, social and spiritual needs of children is breast milk. Breast milk is rich in growth promoting nutrients, hormones, anti-allergic and anti-inflammatory substances. The nutrients in breast milk consist of about 200 different food components<sup>6</sup>

This study was designed to analyze mothers' perceived vulnerability to exclusive breastfeeding in an effort to prevent stunting.

## METHODS

This study used quantitative methods with cross-sectional approach. This research was conducted in Jaya Tunggal Village, Tuah Negeri District, Musi Rawas Regency, South Sumatra Province, where the sample size was 154 mothers who had infants aged 6-36 months. The sampling technique was purposive sampling. The research instrument is a questionnaire. Data analysis using descriptive statistical tests, chi-squared and logistic regression statistical tests, where the independent variable and the dependent variable in this study have a minimum scale, so regression is used binary logistic regression. The independent variables are mother's age, mother's education level, mother's employment, family income, mother's knowledge and mother's attitude. The dependent variable in this study is exclusive breastfeeding to prevent stunting.

## RESULT AND DISCUSSION

**Table 1.** Characteristics of Respondents

Characteristics	n	%
<b>Age group</b>		
≤30 years	80	51,9%
>30 years	74	48,1%
<b>Education level</b>		
Low (Primary school, middle school, no school)	85	55,2%
High ( High school, university, diploma)	69	44,8%
<b>Employment status</b>		
working	21	13,6%
Not working	133	86,4%
<b>Family Income</b>		
Below the minimum wage	144	93,5%
Above minimum wage	10	6,5%
<b>Mother's knowledge</b>		
Good	124	80,5%
Poor	30	19,5%
<b>Attitude of the mother</b>		
Positive	149	96,8%

Negative <b>Breastfeeding practices</b>	5	3,2%
Good	150	97,4%
Not good	4	2,6%

Table 1 shows that the majority of the respondents are mothers in healthy reproductive age with an average age of less than 30 years, as many as 80 respondents (51.9%) with low education

(55.2%). Most of the mothers do not work (86.4%). More than half had a household income below the legal minimum wage (UMR) (93.5%). A total of (80.5%) respondents were classified as knowledgeable. However, few had negative attitudes towards breastfeeding (3.2%) and 97.4% breastfed well.

**Table 2.** Relationship between Characteristics and Breastfeeding

Variable	Breastfeeding practice				p-value	OR
	Yes		No			
	n	%	n	%		
<b>Mother's age</b>					<b>0,351</b>	<b>0,300</b>
≤ 30 Tahun	79	98,8%	1	1,3%		
>30 Tahun	71	95,9%	4	4,1%		
<b>Educational level</b>					<b>0,326</b>	<b>0,262</b>
Low (Primary school, middle school, no school)	84	98,8%	1	1,2%		
High (High school, university, diploma)	66	95,7%	3	4,3%		
<b>Work status</b>					<b>0,238</b>	<b>2,167</b>
Working	20	95,2%	1	4,8%		
Not Working	130	97,7%	3	2,3%		
<b>Family Income</b>					<b>1,000</b>	<b>0,191</b>
Below the minimum wave	141	97,9%	3	2,1%		
Above minimum wave	9	90,0%	1	10,0%		
<b>Mother's Knowledge</b>					<b>0,001</b>	<b>0,867</b>
Good	124	150%	0	3,2%		
Not good	26	29,2%	4	0,8%		
<b>Maternal attitude</b>					<b>0,005</b>	<b>49,000</b>
Positive	147	145,1%	2	3,9%		
Negative	3	4,9%	2	1%		

Table 2 of the bivariate analysis results shows that the independent variables that influence mothers' actions towards exclusive breastfeeding to prevent stunting are maternal knowledge and attitudes with a p value <0.05 and 95% CI. Variables with a p value > 0.05 do not have a significant relationship with the dependent variable, namely maternal age, maternal education, maternal employment status, family income, maternal knowledge, and attitude. Based on the results of this

study, the majority of respondents were ≤ 30 years old and the minority were > 30 years old. Based on the results of the chi-square test analysis, the maternal age variable with breastfeeding actions has a p value of 0.351 (>0.05), so it can be stated statistically that there is no significant relationship between maternal age and exclusive breastfeeding actions in preventing stunting. The results of research by Nadiyah et al in 2014 state that there is no significant relationship between maternal age and

stunting prevention. Therefore, according to this particular study, age is not an influential factor in stunting prevention efforts <sup>7</sup>

In the results of Chi-squared test analysis of the mother's education variable with exclusive breastfeeding interventions, the p-value = 0.326 (>0.05) and OR value of = 0,262 means that the mother's education level does not have a significant relationship with exclusive breastfeeding interventions in preventing stunting. This is different from the findings of Yanti; Betriana and Kartika (2020) who explain that education level affects stunting prevention policies because highly educated mothers tend to pay attention to their children's nutritional intake, in contrast to mothers with low education who may not pay much attention to nutritional intake and food composition <sup>8</sup>.

In terms of employment characteristics, it was found that most of the respondents were mothers who did not work, namely 133 people (86.4%). According to the research of working mothers will have an impact on family life. This affects exclusive breastfeeding, mothers who do not work give a lot of exclusive breastfeeding to their babies because mothers who do not work have more time with their babies, so mothers can provide exclusive breastfeeding to their babies in full compared to working mothers <sup>9</sup>. The results of chi-squared analysis between maternal employment and exclusive breastfeeding showed a p-value of 0.238

and OR value of 2.167, which means that there is no significant relationship between maternal employment and exclusive breastfeeding<sup>10</sup>.

The family income variable in this study did not have a significant relationship with breastfeeding interventions to prevent stunting. The same results were also obtained in the research of family income did not have a significant relationship with stunting prevention and obtained a p-value of 0.091<sup>11</sup>.

Based on the results of the research study, it shows that there is a significant relationship between the variable of maternal knowledge and the practice of exclusive breastfeeding to prevent stunting (p value=0.005). Based on the results of this study, it is found that mothers have good knowledge related to the vulnerability of stunting in their children. This finding reflects the mother's concern for the child's nutritional intake, namely exclusive breastfeeding, in an effort to prevent stunting. Based on the findings from the field, it was also found that the majority of mothers of young children strongly agreed with the statement that mothers who do not provide exclusive breastfeeding are vulnerable to stunting. Mothers who are informed about the risks of non-exclusive breastfeeding in stunting prevention efforts have a perception of vulnerability. With the right perceptions, mothers can play an important role in stunting prevention efforts <sup>12</sup>

While the results of the study between the maternal attitude variable and exclusive

breastfeeding policies in stunting prevention efforts obtained  $p$  value=0.005 ( $<0.05$ ), thus it can be concluded that there is a significant relationship between maternal attitudes and exclusive breastfeeding policies in stunting prevention<sup>13</sup>. According to previous research, there is a relationship between attitudes and exclusive breastfeeding, with children who are not exclusively breastfed having a 61-fold higher risk of stunting than those who are exclusively breastfed<sup>14</sup>. For infants, exclusive breastfeeding reduces the risk of stunting. The same research was found in a study conducted in the Jambi City area by Arnita *et al.* (2020), who claimed that there was a significant correlation ( $p$  value = 0.030) between maternal attitudes and interventions to prevent stunting in children under five. The poor attitude of mothers when it comes to feeding their children<sup>15</sup>.

**Table 3.** Multivariate analysis between independent variables (maternal characteristics, knowledge and attitudes) and dependent variable (breastfeeding practices)

Variable	OR	p-value	95% CI	
			min	max
Knowledge	0,106	0,000	0,947	0,545
Attitude	0,340	0,000	0,050	15.076
Mother's age	0,032	0,166	0,214	17.938

Multivariate analysis is used to determine the independent variables that are expected to be the dominant factor. These variables are maternal age, maternal knowledge and maternal attitude. From the results of the logistic regression test, it was found that the dominant factor in the perception of the importance of exclusive breastfeeding in preventing

stunting was maternal knowledge and attitude. This is consistent with Okawary's (2021) research that highly educated mothers tend to be more curious about their children's growth and development<sup>16</sup>. In addition, maternal attitude is a dominant factor because in this study, mothers of young children believe that their children must be exclusively breastfed to prevent nutritional problems and will provide good benefits for their young children, so mothers decide to apply stunting prevention behavior to their young children<sup>16</sup>.

## CONCLUSION

Based on the results of the study, it can be concluded that the average age of the mothers of young children is  $\leq 30$  years, with the majority having low education and non-working status. In terms of family income, more than half earn less than the UMR. Respondents were in the good knowledge category but had at least negative attitudes towards breastfeeding and breastfeeding well. The results of bivariate analysis showed that maternal knowledge ( $p$ -value= 0.001) and maternal attitude ( $p$ -value = 0.005) were significantly associated with exclusive breastfeeding. The results of multivariate analysis with logistic regression test showed that knowledge ( $p$  value $<0.000$ ) and maternal attitude ( $p$  value $<0.000$ ) were the dominant factors in the perception of maternal

vulnerability in exclusive breastfeeding in an effort to prevent stunting<sup>17</sup>.

Based on the research findings and statistical tests conducted, the researchers recommend that families use the research findings as inspiration to raise awareness, adopt better attitudes, and change their behaviors to prevent stunting. It is also recommended that educational institutions use the findings of this study as a guide for educational activities.

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