



The Relationship Between the Implementation of Clean and Healthy Living Behaviors and the Incidence of Stunting in Toddlers

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<p>Track Record Article</p> <p>Accepted: 20 September 2024 Revised: 16 Oktober 2024 Published: 30 November 2024</p> <p>How to cite : Hasanah, U., & Arifah, S. (2024). The Relationship Between the Implementation of Clean and Healthy Living Behaviors and the Incidence of Stunting in Toddlers. <i>Contagion : Scientific Periodical of Public Health and Coastal Health</i>, 6(2), 1191–1199.</p>	<p style="text-align: center;">Abstract</p> <p><i>Clean and healthy living behaviour is one way to reduce toddler stunting rates. Good Clean and Healthy Living Behavior at the household level can protect toddlers from infectious diseases that can interfere with the absorption of nutrients in children. The incidence of stunting in toddlers in Boyolali Regency in 2022 was 20.0%. This study aimed to determine the relationship between the incidence of stunting in toddlers and Healthy Living Behavior. This study is a quantitative study with a cross-sectional design. This research was conducted at the Boyolali Health Center, precisely at the Sawit 1 Health Center, Boyolali Regency, which was carried out in June 2024. This study's population were mothers with toddlers aged 1 to 5 years at the Sawit 1 Health Center, Boyolali Regency. The population in this study was 203 people. The sampling technique for the study was Proposive random sampling, so the sample in this study was 105 mothers who had toddlers aged 1-5 years in the work area of the Sawit Health Center, Boyolali Regency. The instruments used in this study were height measurements in the form of anthropometry and a clean and healthy lifestyle questionnaire conducted in the form of direct interviews. Analysis of research data using Bivariate analysis of the chi-square test with data processing using SPSS software version 27. The study's results showed no relationship between mothers' clean and healthy lifestyle behaviour and the incidence of stunting in toddlers, with a value of $p = 0.266$ ($p => 0.05$). Mothers of toddlers are advised to maintain cleanliness and pay attention to the nutritional intake of toddlers. Health workers need to continue providing education on parenting patterns, nutrition, and access to health services. A holistic approach is still needed for comprehensive stunting prevention.</i></p> <p>Keywords: <i>Clean and Healthy Lifestyle Behavior, Toddlers, Stunting</i></p>
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INTRODUCTION

Stunting has become one of the issues the Indonesian government must address because it can endanger the quality of the nation's human resources (Pepadu et al., 2023). Stunting is when a person's height is shorter than the average height of others their age. The causes of stunting include poor nutrition, ignorance among mothers regarding health and nutrition, limited healthcare services, insufficient access to sanitary facilities and clean water, and a lack of nutrient-rich food (Kemenkes RI, 2022).

Based on UNICEF data regarding child malnutrition in the 2021 edition. The report reveals the conditions of nutritional problems in children, such as obesity, malnutrition, and stunting in the world, and it is estimated that 149.2 million (22.0%) children worldwide experienced stunting in 2020 (UNICEF et al., 2020)

As reported by the Nutrition Status Survey of Indonesia (SSGI) conducted by the Stunting and the Ministry of Health, the rate among children in Indonesia was 21.6% in 2022.

The prevalence of stunted children under five in Central Java Province in 2022 was 20.8%, while the prevalence of stunted children under five in Boyolali Regency in 2022 was 20.0% (Kemenkes, 2022). Several factors can influence stunting, including clean and healthy living behaviours, birth weight, maternal education level, maternal knowledge level, family income level, parenting styles, food diversity, infectious diseases, parental height, and exclusive breastfeeding (Siswati, 2018).

Basically, Clean and Healthy Lifestyle Behavior guides families on how to prevent diseases (Hidayah 2022). The use of Clean and Healthy Lifestyle Behavior in households encourages all family members to understand, be capable of, and apply Clean and Healthy Lifestyle Behavior in their daily lives. However, family members are also expected to actively participate in health movements in their environment, including health promotion activities (Hidayat et al., 2023).

The role of a mother in a family is vital because the mother is the driving force of behaviour in the family. Stunting is directly influenced by several things, namely nutritional intake variables, history of infection, and maternal nutritional knowledge and nutritional levels. Meanwhile, clean and healthy living behaviour indirectly affects stunting through a history of infectious diseases (Uliyanti et al., 2017; Sari et al., 2024).

Research Pepadu et al., (2023), shows a significant correlation between the level of environmental sanitation and the incidence of stunting in toddlers. Research by Dhefiana et al. (2023) shows a correlation between maternal behaviour towards implementing clean and healthy living behaviour and the incidence of stunting in toddlers aged 24 to 59 months. Mothers have the most critical role in caring for and managing toddlers. Mothers can also be called role models because homemakers are at home almost daily. Mothers play a significant role in toddlers' growth, development, and behaviour (Sari et al., 2021).

Problems in implementing clean and healthy living behaviour in households, especially in Boyolali Regency, are high poverty rates, which can hinder the implementation of a balanced diet, poor environmental sanitation management, lack of access to clean water that is suitable for consumption, and lack of household or livestock waste management. Based on the information above, researchers want to research the effect of clean and healthy living behaviour on mothers who have stunted toddlers at the Sawit 1 Health Center, Boyolali Regency.

METHODS

This study is a quantitative study with a cross-sectional research design, namely to determine the relationship between the level of knowledge, attitudes, and behaviour of mothers in implementing clean and healthy living behaviours with the incidence of stunting in toddlers aged 1-5 years in the work area of the Sawit 1 Health Center, Boyolali Regency.

This research was conducted at the Boyolali Health Center, precisely at the Sawit 1 Health Center, Boyolali Regency. The research implementation time was in June 2024.

This study's population were mothers with toddlers aged 1 to 5 years at the Sawit 1 Health Center, Boyolali Regency. The population in this study was 203 people.

The sampling technique used in this study was Purposive random sampling, namely random sampling according to the inclusion criteria. Then, the researchers went door to door to fill out questionnaires and observations and take anthropometric measurements.

The inclusion criteria in this study were mothers with toddlers aged 1 to 5 years who experienced stunting. These children were not currently sick and were being treated in a hospital, and they were willing to be respondents. The Exclusion criteria in this study were children who were not in a place for more than 1 month and children with severe chronic illnesses, for example, cerebral palsy. The sample in this study was 105 mothers of toddlers aged 1-5 years.

Data collection used a questionnaire containing 20 questions about clean and healthy living behaviour, while the level of stunting was assessed by measuring height. The child's height was measured and adjusted to the child's ideal age, which was classified based on the WHO standard deviation for anthropometric measurements.

Data analysis of the study with Univariate analysis using frequency, and Bivariate analysis using the chi-square test method. Data processing in this study used SPSS software version 27. This study has received approval from the Health Research Ethics Commission of the Muhammadiyah University of Surakarta with Number 5201/B.1/KEPK-FKUMS/III/2024.

RESULTS

Based on Table 1. shows that respondents aged between 26-30 years are (37%). Based on the assignment, I mentioned that the number of respondents under 25 years old is 12 people (11.4%), those aged 31-35 years are 24 people (22.9%), and those over 35 years old are 30 people (28%). The characteristics of respondents based on the highest level of education are elementary school as many as 4 people (4.8%), junior high school as many as 20 people (19%), high school/vocational school as many as 58 people (55.2%), and college as many as 22 people (20.9%). The characteristics of the most considerable toddler age are 25-36 months, as many

as 31 people (29.5%), and the characteristics of respondents based on the gender of toddlers show that most are male, namely 59 people (56.2%).

Table 1. Characteristics of Respondent Mothers

Variables	Frequency	%
Mother Age		
<25	12	11,4
26-30	39	37,1
31-35	24	22,9
>35	30	28,6
Education		
elementary school	5	4,8
junior high school	20	19
high school	58	55,2
Higher education institution	22	20,9
Child Age		
12-24 moon	18	17,1
25-36 moon	31	29,5
38-48 moon	27	25,7
48-60 moon	29	27,6
Gender		
Female	46	43,8
Male	59	56,2
Total	105	100

*Source: Primary Data 2024

Based on Table 2. The results of the frequency distribution showed that the highest age of toddlers was 25-36 months with 31 respondents (29.5), 12-24 months with 18 (17.1%), 38-48 months with 27 respondents (25.7%) and 48-60 months with 29 respondents (27.6%). The characteristics of respondents based on the gender of toddlers were 46 female respondents (43.8%), and 59 male respondents (56.2%).

Table 2. Frequency Distribution of Toddler Characteristics

Variable	Frekuensi	%
Age		
12-24 months	18	17,1
25-36 months	31	29,5
38-48 months	27	25,7
48-60 months	29	27,6
Gender		
Female	46	43,8
Male	59	56,2
Total	105	100

*Source: Primary Data 2024

Based on Table 3. The results of the frequency distribution of clean and healthy living behaviour in mothers in the household. In the distribution results, the researcher categorized clean and healthy living behaviour into three categories: good, moderate, and bad. It is said to be in the good category if the total score is less than 30 points, in the moderate category if the

total score is between 28-34 points, and in the bad category if the total score is between 20-27 points. In stunting, there are 3 categories, namely very short if the z-score <-3 , short if -3 to $<z\text{-score} <-2$, and normal if -2 to $<z\text{-score} <+3$.

Table 3. Frequency Distribution of Clean and Healthy Living Behavior with Stunting

Variable	Frequency	%
Clean and healthy living behaviour		
Good	25	23,8
average	64	61,0
Bad	16	15,2
Stunting		
Very short <-3	4	3,8
Short -3 sd <-2	15	14,3
Normal -2 sd $+3$	86	81,9
Total	105	100

*Source: Primary Data 2024

Table 4. Relationship between the Implementation of Clean and Healthy Living Behavior of Mothers and Stunting in Toddlers at the Sawit 1 Health Center, Boyolali Regency

Clean and healthy living behaviour	Stunting						Total		p-value
	Normal		short		Very short		N	%	
	n	%	n	%	n	%			
Bad	15	93,8	0	0,0	1	6,3	16	100	0,266
Medium	49	76,6	12	18,8	3	4,7	64	100	
Good	22	88,0	3	12,0	0	0,0	25	100	

*Source: Primary Data 2024

Based on the results of the study Table 4, it shows that of the 16 mothers with poor clean and healthy living behavior, 15 children (93.8%) had normal nutritional status, while 1 child (6.3%) experienced very short conditions. No children experienced short conditions. In the group of mothers with moderate clean and healthy living behavior, of the 64 children, 49 children (76.6%) had normal nutritional status, 12 children (18.8%) were short, and 3 children (4.7%) experienced very short conditions. Meanwhile, in the group of mothers with good clean and healthy living behavior, of the 25 children, 22 children (88.0%) had normal nutritional status, 3 children (12.0%) were short, and no children experienced very short conditions. This shows that although the mothers' clean and healthy living behavior varies, most children still have normal nutritional status, with small variations in cases of short and very short children. From the results of the Chi-Square test, it was found that there was no relationship between clean and healthy living behavior and stunting with a significance value of $p=0.266$ (>0.05).

DISCUSSION

From the results of the analysis of clean and healthy living behaviour within households, the highest category is the medium clean and healthy living behaviour category, with 64 mothers (61%). Most homemakers in that environment understand the importance of engaging in and applying various activities related to clean and healthy living behaviour for their families to remain healthy and avoid disease. Implementing clean and healthy living behaviour in households is crucial to achieving a healthy household (Fauziyah et al., 2023). This research aligns with a study conducted in Jambi, which found 50 mothers (76.9%) in the excellent category (Pratiwi, 2022). This research is consistent with a study in Lumbuk Rumbai Village, which reported 50 mothers (38.7%) in the clean and healthy living behaviour category (Aprizah, 2021).

This research produced the highest category, toddlers with normal conditions, totalling 86 children (81.9%) whose heights are considered normal for their age. The health centre has already addressed the issue of stunting. Meeting nutritional intake, sufficient energy, protein, and good parenting patterns will decrease the number of children experiencing stunting (Tanzil et al., 2021). Meanwhile, the number of toddlers experiencing stunting or being short in this study reached 15 (14.3%), and 4 (3.8%) were categorized as very short. In this regard, parental involvement in ensuring their children's nutrition is significant.

A child's height increase will be influenced by nutritional deficiencies, as can be observed through height measurements. This did not happen suddenly but rather began with a long-term disruption in the child's growth in height (Putra et al., 2020). This research is in line with previous studies conducted in Baki, which found that there were stunted toddlers, totalling 26 children, with 6 classified as very short (Larasati, 2022). This research aligns with a study at the Klakah Health Center, which reported 18 stunted toddlers (41.9%) (Suryawan et al., 2022). Additionally, this research is consistent with a study conducted in Kintamani village, which identified 17 stunted toddlers (10.7%) (Michelle, 2024).

One of the main factors causing stunting is parents' lack of understanding about the importance of providing healthy and nutritious food for their children (Nur et al., 2024). A baby's nutritional needs will be disrupted if the baby does not receive enough nutrition from the expected vegetables and fruits, ultimately leading to delayed growth (Dhami et al., 2019). The study's findings are consistent with previous research that shows no relationship between the 8 indicators of Healthy Living Behavior and the incidence of stunting in toddlers in Waru Jaya Village, Parung District, Bogor Regency (Kurniawati 2021).

This indicates no relationship between mothers' clean and healthy living behaviour and the incidence of toddler stunting (p -value=0,266). This study supports earlier research that

revealed no connection between the prevalence of stunting and the consumption of healthful snacks (Hidayah et al., 2022). This study is reinforced by previous research stating that there is no relationship between knowledge, attitudes, and actions regarding clean and healthy living behaviour and the incidence of stunting (Amahorseja et al., 2019). This study supports differs from other studies because it finds a relationship between the level of knowledge and the implementation of clean and healthy living behaviour between moms and the prevalence of stunting (Dhefiana et al., 2023). This study also contradicts previous studies that found a relationship between exclusive breastfeeding and the incidence of stunting in children aged 1-3 years (Sudariyekti et al., 2024).

Parental and family nutritional awareness is closely related to toddler nutritional intake and implementing clean and healthy living behaviour. Because mothers determine behaviour in the family, the role of mothers is vital. Several factors, including maternal nutritional education and nutritional level, history of infection, and characteristics of nutritional intake, directly influence the incidence of stunting (Murtosiah et al., 2024). Meanwhile, a history of infectious diseases is an indirect relationship between clean and healthy living behaviour and the incidence of stunting (Dhefiana et al., 2023). Living a clean and healthy lifestyle is an effort to become more self-aware, aware, and able to improve one's health. Toddler health is also influenced by efforts to implement a clean and healthy lifestyle, especially those related to the nutritional quality of toddlers. Stunting in children or toddlers from an early age can be prevented by implementing clean and healthy living behaviours (Purwanto et al., 2020).

One way to improve the health and nutrition of families is to implement a clean and healthy lifestyle (Aprizah, 2021). Clean and healthy living behaviour in the household hierarchy and short nutritional status stunting are interrelated (Zakiah et al., 2024).

The study's results did not find a relationship between mothers' clean and healthy living behaviour and the incidence of stunting in toddlers, which several factors can cause. Stunting is more influenced by chronic malnutrition, which may not be immediately resolved only by clean and healthy living behaviour. In addition, economic factors and access to nutritious food also play an essential role in stunting. Even though mothers have implemented clean and healthy living behaviours, the risk of stunting remains if the child's nutrition is insufficient or the sanitation environment is poor. Implementing clean and healthy living behaviour may have yet to be carried out consistently, or its reach is limited.

CONCLUSIONS

There is no relationship between the implementation of clean and healthy living behaviour by mothers and the incidence of stunting in children aged 1-5 years in the working area of the Sawit 1 Health Center, Boyolali Regency. Boys aged 25-36 months are the majority of children who experience stunting. Mothers have implemented clean and healthy living behaviour in the household environment, but some still have not. Therefore, it is recommended that health workers provide health education regarding clean and healthy living behaviour in the household environment.

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