JOURNAL OF PUBLIC HEALTH FOR TROPICAL AND COASTAL REGION (JPHTCR)
Journal homepage: http:/ejournal2.undip.ac.id/index.php/jphtr/index
ISSN : 2597-438

Factors Associated with Stunting in Toddlers Under the Service Area of Bakunase Primary Health Center in Kupang City

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Abstract

Introduction: Stunting or short stature is a term used for children whose height is below average of the same sex, age and ideally from the same racial-ethnic group (≤ -2 SD). In the short term, stunting causes slowdown of growth and development and in the long term it causes have an impact on cognitive aspects and increasing risk of getting non-communicable diseases. This study aims to analyze the factors associated with the incidence of stunting in toddlers under the service area of the Bakunase Primary Health Center, Kupang City.

Methods : This research is an analytical survey, with a case control design. Total 136 toddlers which were divided into 68 case groups and 68 control groups were recruited. The recruited-participants were selected using a simple random sampling method. The mother's knowledge, attitude, parenting style, living environment and the incidence of diarrhea were investigated. Data was collected using questionnaire. The chi-square statistical test was used and Odd Ratios were calculated.

Results: The results showed that there was a relationship between mother's knowledge (p value = 0.000, OR = 6.667), mother's attitude (p value = 0.000, OR = 5.808), mother's parenting style (p value = 0.000, OR = 5.093), living environment (p value = 0.000, OR = 7.538), and the incidence of diarrhea (p value = 0.002, OR = .3.175) with the incidence of stunting in toddlers the Bakunase Primary Health Center service area, Kupang City.

Conclusion: It was concluded that there was a relationship between mother's knowledge, mother's attitude, mother's upbringing, living environment and the incidence of diarrhea with the incidence of stunting in toddlers. Therefore, health promotion and cross-sector cooperation are needed to overcome the problem of stunting.

Keywords: Knowledge, Attitude, Parenting, Diarrhea, Stunting

Article History: Received: 28th April 2023, revised: 1st June 2023, accepted: 10th July 2023

Introduction

Every country in the world has nutritional problems, based on data (Global Nutrition Report, 2018) as many as 22.2% or equal with around 150.7 million children suffering from stunting. Indonesia is the 5th country with the highest number of stunting after India 48% (60,788 toddlers), China 15% (12,658 toddlers), Nigeria 41%(10,158 toddlers), and Pakistan 42% (7,688 toddlers). [1]

Stunting causes children to experience health problems during their growth and development phase which is, irreversible.

In the short term, stunting causes a slowdown in the process of growth and development and in the long term it affects on cognitive aspects and increasing risk of getting the non-communicable diseases. The incidence of stunting is an indicator of child welfare in a country. Disturbances in growth and development in children can follow into adulthood phase if intervension is not introduced. Thus, the following impact of stunting is that children become more susceptible to diseases and can be at risk of decreasing productivity levels. Moreover, stunting in general can hamper economic growth, increase poverty and widen inequality. [2]

The incidence of stunting in Indonesia is of concern to the government which is considered to be a serious health problem, where stunting is one of the five strategic issues which is a priority for national health development for 2020-2024. Based on the results of the 2021 Indonesian Nutrition Status Study (SSGI), from 34 provinces and 514 regencies/cities in Indonesia, it was found that the national stunting rate has decreased by 1.6% per year from 27.7% in 2019 to 24.4% in 2021. Most of the 34 provinces showed a decrease compared to 2019 and only 5 provinces shows an increase cases. This shows that the implementation of government policies to accelerate the reduction of stunting in Indonesia has yielded good results. [3]

Based on data from the Central Statistics Agency (BPS) East Nusa Tenggara (NTT), there were about 23.72% (2016), 22.3 % (2017) and 26.7% (2018) and 23.9% (2020) short and very short toddlers in 5 regions in East Nusa Tenggara.[4] The high prevalence of stunting, the Maternal Mortality Rate (MMR) and the Infant Mortality Rate (IMR) are serious problems in East Nusa Tenggara Province, and have become targets for macro-development indicators in the 2018-2023 NTT Province Change Medium-Term Development Plan document. Kupang City is one of the cities that is included in the priority cities for stunting program. The results of monitoring of the nutritional status in Kupang City in 2018 had found around 3,446 stunted toddlers consisting of 1,753 short and 1,693 very short. Based on data on stunting toddlers from the Kupang City e-PPGM period of February 2022, there were 3,829 stunted toddlers consisting of 2,800 short and 1,029 very short and in the August 2022, there were 5,497 stunted toddlers consisting of 4,075 short and 1,422 very short. Based on the initial data collection by researchers at the Bakunase Primary Health Center that the number of toddlers experiencing stunting in 2021 was 1,362 toddlers and in the January-August 2022 there were 898 toddlers. [5] [6]

Recent studies have shown that stunting is associated with poor school performance, low educational attainment and low income. Children who are stunted have a greater possibility of growing into adults who are unhealthy and poor. Stunting in children is also associated with an increased vulnerability of children to diseases, both communicable and non-communicable diseases (NCDs) as well as an increased risk of overweight and obesity. Long-term overweight and obesity can increase the risk of degenerative diseases. [7]

Stunting is caused by chronic malnutrition that occurs from infancy in the womb to the age of two. Stunting can occur in the first 1,000 days of life (HPK) after the conception phase. The 1,000 HPK phase is a very important period for humans because that time is the best phase for the development of brain cells. Thus, the period of the first 1,000 days of life is given special attention because it determines the level of physical growth. [8] [9]

The high prevalence of stunting can be caused by several factors such as lack of nutritional intake in the long term from conception to childhood of 2 years old, children often get infectious diseases such as ISPA and diarrhea, limited clean water and sanitation, and low food availability in households. Public ignorance of the factors that cause stunting and the provision of health services that are not up to standard, both at the community level and in health service facilities, increase risk of stunting. [9] [8]

Stunting in children under five is a consequence of several factors that are often associated with poverty including

nutrition, health, sanitation and the environment. Stunting is not only caused by one factor but also caused by many factors that are interconnected with one another. [10] The role of parents including mothers is very important in fulfilling children's nutrition. Mothers who have good nutritional knowledge can reduce the risk of stunting in children. With good knowledge, mothers can provide good nutritional intake that is needed by children during their growth and development period. [11] The level of mother's knowledge is the key in managing the household, this will affect the attitude of the mother in choosing food ingredients that will be consumed by the family. Mothers who have poor nutritional knowledge and attitudes will greatly affect the nutritional status of their children and will find it difficult to choose nutritious food for children and their families [11]

Parenting style is the behavior of mothers in caring for their toddlers which is influenced by attitudes and knowledge. Mother's parenting style has a role in the incidence of stunting in toddlers because food intake in toddlers is regulated by the mother. Parenting style plays an important role in the occurrence of growth disorders in children. Poor parenting can cause nutritional problems in society.[12]

Environmental factors where you live can indirectly have an impact on the incidence of stunting. The scope of the residential environment includes disposal of human waste (feces), provision of clean water, garbage disposal, disposal of dirty water (wastewater), and hygiene behavior. Poor environmental conditions and hygiene allow for infectious diseases such as diarrhea to occur which can lead to stunting rates. [13]

Therefore researchers are interested in analyzing the factors associated (mother's knowledge, mother's attitude, mother's parenting style, living environment and incidence of diarrhea) with the incidence of stunting under the service area of the Bakunase Primary Health Center, Kupang City.

Methods

In this study, researchers used an analytical research survey with a case control study design. The population in this study were 3,056 children age 1-5 years until August 2022 in the Bakunase Primary Health Center Area, Kupang City.

Total 466 stunted children under 5 years old and 2,590 normal children were population in this study. The case groups were then selected using simple random sampling and the control groups were using the probability sampling technique with area (cluster) sampling (sampling by area). Total 68 cases (stunted children) and 68 controls (normal children) were recruited in this study.

Data were collected by interview using a standardised questionnaire. The Chi-square test was used to see the relationship between the independent variable (stunting) and the dependent variable (mother's knowledge, mother's attitude, mother's parenting style, living environment and diarrhea). The knowledge questions were about the definition of stunting, the causes of stunting, the impact of stunting, prevention and factors that can affect stunting with low and high objective criteria. Attitudes were respondents' responses with positive and negative values involving the thoughts, feelings and attention of the mother in the form of attitudes about stunting related to feeding patterns for children with poor and good objective criteria. Mother's behavior in caring children were obtained from the answers to the questionnaire with less and good objective criteria. Environmental factors in the form of access to clean water and family sanitation with poor and good objective criteria. The incidence of diarrhea was defined as a condition where it occured liquid bowel movements or diarrhea with frequency more than three times a day with the objective criteria of diarrhea and no diarrhea. The data that had been analyzed werw presented in the form of tables and narratives.

Results

Relationship between Mother's Knowledge and Stunting Incidents

Table 1 shows that mothers with stunted children had bad knowledge (70.6%) compared to mothers with normal children (26.5%). Whilst most of the

mother who had normal children had good knowledge (73.5%) as compared to mother with stunted children (29.4%). There was a significant relationship between mothers ' knowledge and the incidence of stunting in the Bakunase Primary Health Center (p value < 0.001). This result also indicated that mothers with bad knowledge on stunting can increase the risk 6.7 times higher of getting stunted children under 5 than mother who have good knowledge on stunting.

Table 1. Relationship between Mother's Knowledge and Stunting Incidents

Mother's knowledge	***Stunting***						***p value***	**OR 95% CI**
	Case		**Control**		**Total**			
	n	**%**	**n**	**%**	**n**	**%**		
Bad	48	70,6	18	26,5	66	48,5	0,000	6,667 (3,149-14,112)
Good	20	29,4	50	73,5	70	51,5		
Total	**68**	**100**	**68**	**100**	**136**	**100**		

Table 2 Relationship between Mother's Attitude and Stunting Incidence

Mother's attitude	***Stunting***						***p value***	**OR 95% CI**
	Case		**Control**		**Total**			
	n	**%**	**n**	**%**	**n**	**%**		
Negative	50	73,5	22	32,4	72	52,9	0,000	5,808 (2,770-12,180)
Positive	18	26,5	46	67,6	64	47,1		
Total	**68**	**100**	**68**	**100**	**136**	**100**		

Table 3. Relationship between Mother's Parenting Style and Stunting Incidence

Mother's parenting	***Stunting***						***p value***	**OR 95% CI**
	Case		**Control**		**Total**			
	n	**%**	**n**	**%**	**n**	**%**		
Bad	44	64,7	18	26,5	62	45,6	0,000	5,093 (2,446-10,602)
Good	24	35,3	50	73,5	74	54,4		
Total	**68**	**100**	**68**	**100**	**136**	**100**		

Table 4 Relationship between Residential Environment and Stunting Incidence

Residential environment	***Stunting***						***p value***	**OR 95% CI**
	Case		**Control**		**Total**			
	n	**%**	**n**	**%**	**n**	**%**		
Bad	42	61,8	12	17,6	54	39,7	0,000	7,538 (3,413-16,650)
Good	26	38,2	56	82,4	82	60,3		
Total	**68**	**100**	**68**	**100**	**136**	**100**		

Table 5 Relationship between Diarrhea and Stunting

Diarrhea	*Stunting*						*p value*	OR 95% CI
	Case		Control		Total			
	n	%	n	%	n	%		
Yes	41	60,3	22	32,4	63	46,3	0,002	3,175 (1,572-6,413)
No	27	39,7	46	67,6	73	53,7		
Total	**68**	**100**	**68**	**100**	**136**	**100**		

Relationship between Mother's Attitude and Stunting Incidents

Table 2 shows that mother with negative attitudes were mother with stunted children (case groups) (73.5%) as compared to mothers with normal children (32.4%). Most of control groups showed positive attitudes (67.6%) toward the stunting as compared to case groups (26.5%). There was a significant relationship between mothers' attitudes and the incidence of stunting in children under 5 in the Bakunase Primary Health Center. Mothers with negative attitudes also increased risk 5.8 times higher to get stunted children as compared to mothers with positive attitude.

The relationship between maternal parenting and stunting

Table 3 shows that case groups had higher bad parenting style (64.7%) as compared to the control groups (26.5%). Whilst, good parenting style were observed higher in control groups (73.5%) than case groups (35.3%). There was a significant relationship between mother's parenting style with the incidence of stunting (p value < 0.001). This result also indicated that bad parenting style increase 5.1 times higher of getting stunted children than mother who had good parenting style.

Relationship between Residential Environment and Stunting Incidents

Table 4 shows that 61.8% of case groups lived in bad residential environment than control groups (17.6%). Whilst, 82.4% of control groups lived in good residential environment than case groups (38.2%). There was a significant relationship between between the living environment and the incidence of stunting. Living in a bad residential environment increasing 7.5 times higher of getting stunted children than living in good residential environment.

Relationship between Diarrhea and Stunting

Table 5 shows that case groups had higher diarrhea incidence (60.3%) than control groups (32.4%). Whilst, children under 5 who had no diarrhea was higher in control groups (67.6%) than stunted children (39.7%). There was a significant relationship between the incidence of diarrhea experience increased the risk 3.2 times higher to get stunting than children who had less frequent diarrhea.

Discussion

Relationship between Mother's Knowledge and Stunting Incidents

Knowledge is the result of knowing, and this occurs after people sense a certain object. Sensing occurs through the human senses, namely the senses of sight, hearing, smell, taste, and touch. Most of human knowledge is obtained through the eyes and ears. [14]

Stunting is caused by multidimensional factors, one of which is the lack of knowledge of mothers and familie regarding the health and balanced nutrition of their children. Knowledge of nutrition forms the basis of parents' ability to prepare the food for their children. The lack of knowledge of parents causes a low quality of children's nutritional intake which will have an impact on stunting.[15] The previous study showed that a mother's lack of knowledge about stunting can

cause children to be at risk of stunting, whereas good knowledge supports mother's actions in preventing stunting by providing nutritious foods for children under 5. [9] [16]

Based on the results of this study, it showed that there was a significant relationship between mother's knowledge and the incidence of stunting . This is in line with the results of Hasnawati's research (2022), that there was a relationship between mother's knowledge and the incidence of stunting in children aged 12-59 months in the service area of the Lawawoi Primary Health Center, Sidrap Regency. [20] The results of Bulu's research (2022) also showed that there was a significant relationship between maternal nutritional knowledge and the incidence of stunting in children under five in the service area of the Watukawula Primary Health Center, Tambolaka City District, Southwest Sumba Regency and it was found that Mothers with poor nutrition knowledge are at risk of having stunted children under five by 6,400 times greater than mothers who have good nutritional knowledge.

The results of the study also showed that there was a significant relationship between the level of knowledge of mothers about nutrition and the incidence of stunting in children aged 2-5 years at the Kintamani Primary Health Center.[18] The results of the study regarding the description of the knowledge of mothers who have toddlers about stunting at the Rejosari Primary Health Center, Tenayan Raya District, Pekanbaru City, stated that mother's knowledge about stunting at the Rejosari Health Center, Tenayan Raya District, Pekanbaru City, that majority of respondents had less knowledge (70%). [21] [18] This is also in line with research by Ni'mah and Nadhiroh in Surabaya which found that the level of knowledge of mothers about nutrition is related to stunting and mothers who have knowledge about low nutrition have a risk of 3.877 times to experience stunting compared to mothers who have knowledge about good nutrition.[17]

The results of interviews with respondents in the Bakunase Primary Health Center, showed that many mothers whose stunted children did not know the causes of stunting, how to prevent stunting and the effects of stunting, and even several mothers who were interviewed did not know the definition of stunting. The researcher's assumption is that there are still respondents with insufficient knowledge because the respondents did not get information about the meaning, causes, impacts and efforts that can be made to prevent children from experiencing stunting, so that many respondents with less knowledge have stunted children. Based on the information that the researchers obtained in the field, this was because some of the respondents did not receive counseling about stunting, this factor was due to the fact that when counseling was carried out about stunting at the posyandu (integrated posts), some respondents did not attend so they did not receive counseling and also some respondents did not routinely go to the posyandu during the posyandu schedule.

Inadequate knowledge, lack of understanding of good eating habits, and insufficient understanding of stunting affects the attitude and behavior of mothers in providing food for their children. Nutritional problems in children are caused by various causes, one of the causes is the consumption of food that is not in accordance with the needs of children. Mothers have a big role in the progress of the growth and development of their children from proper child stimulation and parenting, and arranging patterns of balanced nutritional intake for their toddlers.

Parents' knowledge about nutrition helps improving the nutritional status of children to reach the growth maturity. Mothers who have less knowledge of children nutrition tend to provide less nutritional intake for their children causing children to experience nutritional problems such as stunting. Good maternal Knowledge will encourage good maternal attitudes and parenting style so that children's nutrition can be achieved properly.

Relationship between Mother's Attitude and Stunting Incidents

Attitude is a reaction or response that is still closed from someone to a stimulus or object. Attitude is a readiness or willingness to act, and is not an implementation of certain motives [18] However, attitude does not always result in an action because it is influenced by how much experience a person has. The mother's attitude is closely related to the nutritional status of children.[19]

According to the mother's attitude towards stunting is the mother's perception of the impact of stunting on children which can result in a positive or negative attitude from the mother based on the information received.

The results of this study showed that there was a significant relationship between the mother's attitude and the incidence of stunting. This is in line with the results of stated that the higher the mother's knowledge and attitude regarding stunting, the lower the incidence of stunting in Tiga Village, Susut, Bangli.[20] The results of the study by Olsa, Sulastri and Anas also showed that there is a significant relationship between attitudes and knowledge of mothers and the incidence of stunting in Nanggalo District, Padang City. [20]

The mother's positive attitude is related with the knowledge or information that has been obtained. The good knowledge forms a positive attitude or good mother's assessment of stunting.[22]

Mother's attitude regarding feeding children is a determining factor for a person to behave in providing proper food for children. The proper food for children is given so that children can meet their nutritional needs. The mother's attitude which is obtained from social interactions such as the environment, can easily influence the mother's behavior in providing food at home.[23] The eating habits taught by the mother to the child will affect the child's eating pattern so that the child can decide what food to consume. The mother's attitude is less likely to have poor feeding practices so that it has an impact on the child's growth in the long term.[26]

The results of interviews with respondents in the Bakunase Primary Health Center, showed that the attitude of mothers in providing food was still heavily influenced by their children's wishes (following the snacks their children liked) without thinking about the nutritional content in them. According to the researchers' assumptions, mothers who have unfavorable attitudes about stunting mean they do not support mothers' practices in tackling and preventing stunting in children under 5.

Relationship between Parenting Style and Stunting Incidents

Stunting can be directly caused by food intake and the occurrence of infectious diseases where these two factors are greatly influenced by mother's parenting style.[24] Parenting style for children are influenced by the mother's understanding of receiving information. Parenting has a role in the nutritional status of children under 5 because food intake is usually regulated by the mothers. Children who get good parenting style will get better nutritional status than children who have poor parenting style.[25] The poor nutritional status of children is due to poor parenting style by delaying food feeding, and do not pay attention to the nutrients contained in food.

According to Loya and Nuryanto, 2017 the direct cause of stunting is nutritional intake from the food provided and the pattern of feeding by the mother. Mothers are required to provide good feeding patterns to their children, especially if the children are still under five, because they are very dependent on mothers, especially in providing food to support their growth process so that their intake of nutrients is properly fulfilled.[29]

The results of this study showed that there was a significant relationship between mother's parenting style and the incidence of stunting. This is in line with the results of research by Permatasari, which showed that the dominant factor influencing the incidence of stunting was parenting style (OR: 6.496 95% CI: 2.486-16.974). [24]

Research by also stated that there is a significant relationship between maternal parenting in feeding and the incidence of

stunting.[25]

Based on the results of interviews in this study, many mothers did not exclusively breastfeed their children and some mothers also only breastfeed for less than 2 years, while 1,000 HPK (First Day of Life) is a very important for the growth of children, some mothers also let their children not wear footwear when playing outside, some of them also rarely go to the posyandu so that some of them have not received complete basic immunization, and the mother's lack of attention to the food consumed by children. Good parenting is that the mother pays attention to the frequency and type of food consumed by their children.

Relationship between Residential Environment and Stunting Incidents

The current condition of environmental health is something that needs attention, because it can cause changes in public health status.[26] Factors of poor environmental sanitation include inadequate access to clean water, use of unsanitary latrines and poor hand hygiene, disposal of trash and ventilation of the house contribute to an increase in infectious diseases such as diarrhea and intestinal worms. These conditions can cause linear growth disorders and can increase mortality in children under five. [31]

Environmental factors related to stunting are sources of drinking water, garbage disposal, and sanitation facilities. The result of this study showed that there was a relationship between the living environment and the incidence of stunting. This is in line with research by Mukaramah and Wahyuni, 2020 which showed that there is a relationship between environmental conditions and the incidence of stunting in toddlers.[26]

Based on the results of this interviews with the respondents, the researchers found that some respondents still lacked access to clean water, use unhealthy of latrines and poor hand washing hygiene, trash disposal, and poor house ventilation.

An unhealthy latrine is a latrine that does not meet the criteria for protecting latrine users.[31] On dirty hands, the disease can be spread orally due to touching food with dirty hands so that the bacterial contamination sticks to the food and is eaten, so this has the potential to cause infectious diseases that affect growth in children under 5. Securing household waste is carrying out waste processing activities at households by prioritizing the principles of reducing, reusing and recycling. The goal of securing household waste is to prevent this waste from becoming a breeding ground for disease bacteria/parasites and disease vectors. A healthy home must have adequate air ventilation, so that air circulation is smooth and the room is fresh. Environmental factors, circumstances and family behavior determine in facilitating infection and affect the nutritional status of children. Toddlers who experience infection if left unchecked can be at risk of stunting. [33]

Environmental health is essentially a condition or condition of the environment that is optimal so that it has a positive effect on the realization of optimum health status as well. The scope of environmental health includes: housing, disposal of human waste (feces), provision of clean water, garbage disposal, disposal of dirty water (wastewater), housing for livestock (stables), and so on. Based on research by Apriluana and Fikawati, 2018 found that environmental factors and poor hygiene have a significant influence on the incidence of stunting in toddlers and have a risk of experiencing stunting of up to 5.0 times. [13]

Unfavorable environmental conditions allow for various infectious diseases to occur, including diarrhea and respiratory tract infections where this infectious disease is one of the factors that can cause toddlers to experience stunting.

Relationship between Diarrhea and Stunting

Based on the results of this study, there was a significant relationship between the incidence of diarrhea and the incidence of stunting. This is in line with research by Lestari and Siwiendrayanti 2021, that there is a relationship between the incidence of diarrhea and the Incidence of stunting in children.[32]

Research conducted also showed that children who are included in the category of frequent diarrhea (> 2 times in the last 3 months) have a 3.619 times greater risk of experiencing stunting. [27] Latrine is a facility used for defecation owned by the respondent. A good latrine is a latrine that is not accessible to animal vectors, a latrine that is easy to use and clean, a latrine that does not smell, the distance between the latrine and a clean water source is >11 meters and the latrine has a septic tank. [34] Based on the results of interviews and observations of respondents, it was found that children under 5 who often experience diarrhea have poor latrines. This is because most of the respondents whose children are stunted have the distance <10 meters between the source of clean water and the sewer. Also, there are even respondents who use unhealthy latrines which can facilitate the transmission of microorganisms that cause diarrhea. Sources of drinking water that are located close to sources of pollution, which are <11 meters apart, result in the content of microorganisms, especially pathogens that cause diarrhea, to seep into the surrounding water sources and make the water of poor quality.

The habit of parents letting their children play on floors that are still made of earth will trigger diarrhea because the germs on the floor.[35] Based on the results of observations by researchers in the field, there are still several respondent houses made of earth and allowing their children to play and even lie down without a mat.

Diarrhea is closely related to malnutrition. Each episode of diarrhea can result in malnutrition due to anorexia and reduced ability to absorb nutrients, so if the episodes are prolonged it will have an impact on the growth and health of children. Infectious diseases accompanied by diarrhea and vomiting will cause malabsorption of nutrients and loss of nutrients for children under 5. Children under 5 who are malnourished will increase to get the disease which will then affect cognitive development and inhibit children's growth.[37] Based on the results of observations, the highest incidence of diarrhea occurred in children who often had diarrhea. The poor physical condition of the home environment poses a high risk of the appearance of bacteria.[39] Unprotected water can affect health, one of which is diarrheal disease. Children under 5 with a history of diarrhea in the last 2 months are at risk of stunting than children without a history of diarrhea in the last 2 months because diarrhea that occurs in children can hinder adequate nutritional intake needed for their growth. [36]

Iron is an essential micronutrient for the body where this substance is needed in the formation of hemoglobin (Hb) molecules, so that if the amount of iron in the form of stores is sufficient, then the need for the formation of red blood cells in the bone marrow will always be fulfilled. However, if it is not fulfilled, children can experience the risk of iron deficiency. This condition will cause growth retardation in children.[37]

Conclusion

There is a relationship between mother's knowledge, mother's attitude, mother's parenting style, living environment and diarrhea with the incidence of stunting in children under 5 in the service area of Bakunase Primary Health Center, Kupang City.

It is hoped that the puskesmas will work together with the posyandu to increase counseling related to the importance of exclusive breastfeeding and nutritious food as well as information related to the definition of stunting, the impact of stunting, causes of stunting, how to prevent stunting as early as possible, importance bringing children to posyandu, good and correct parenting attitudes and patterns, good living environment, clean and healthy lifestyle (PHBS), and how to prevent diarrhea in children so that it can add to people's insight parents of toddlers to minimize the occurrence of stunting. perlu ditambahakna saran atau rekomendasi yang sesuai atau relevan dengan hasil-hasil penelitian [36]

Ethics approval

This study has received ethical approval eligibility from the Health Research Ethics Commission of the

Faculty of Public Health, Nusa Cendana University, with number: 2022518-KEPK, the Year 2023

Availability of data and materials
Available

Acknowledegment
The researcher would like to thank the Head of the Bakunase Health Center and all respondents in this study, as well as the two supervisors who have taken the time to guide researchers so that this research can be completed properly.

Funding
This research was funded by the author of this study, not from outside the Parties

Author Contribution
HONK collected and analyzed data using a questionnaire to determine the relationship between mother's knowledge, mother's attitude, mother's upbringing, living environment and the incidence of diarrhea in toddlers in the working area of the Bakunase Health Center. The author has read and agrees with the final manuscript.

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