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Research Article

TRENDS IN MATERNAL EMPLOYMENT AND EDUCATION STATUS OF STUNTING AND NON-STUNTING TODDLERS IN COASTAL AREAS OF KENDARI CITY

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ABSTRACT

Background: Stunting is a major nutritional problem in Indonesia that can determine the quality of resources. Stunting children are susceptible to disease, have difficulty in physical and cognitive development, and are at risk of developing degenerative diseases as adults. The prevalence of stunting in 2021 was 0.95%, 2022 was 1.4% and 2023 was 1.69%. The aim of this study was to determine the trend of maternal employment and education in stunted and non-stunted toddlers.
Methods: This type of research is descriptive research with a cross-sectional study design. The population of the study was all toddlers in the coastal area of Kendari City. The sample was part of toddlers in the coastal area of Kendari City in 2024, consisting of 35 intervention groups and 35 control groups. Data were collected using questionnaires and descriptive data analysis.
Results: Mothers' jobs were not working, namely as housewives, as many as 85.7% in the intervention group and 80% in the control group were housewives. Most of the mother's education in the intervention and control groups, most of them were high school graduates, namely 45.6% in the intervention group and 54.1% in the control group.
Conclusion: The mothers' occupations in stunted and non-stunted toddlers are mostly housewives and the mothers' education are mostly high school graduates.

Keywords: Knowledge, Exclusive Breastfeeding, Environmental, Income

INTRODUCTION

Stunting is a major nutritional problem in Indonesia that can determine the quality of human resources (1). Stunting is a condition of failure to thrive in toddlers due to chronic malnutrition so that they are too short for their age. Stunting children are susceptible to disease, have difficulty in physical and cognitive development, are at risk of degenerative diseases as adults, are life-threatening and the loss of the nation's generation (2). The prevalence of stunting in the world in 2020 was 149 million (22%) toddlers, of which 6.3 million were early childhood (3). Research in Africa by Quamme and Iversen in 2022 showed that the prevalence of stunting reached 41% (4). Meanwhile, in Indonesia, based on the results of the 2019 Indonesian Nutritional Status Survey, there were 27.7% of toddlers with stunting, then 24.4% in 2021 and 21.6% in 2022. The prevalence of stunting in Southeast Sulawesi is included in the 10 highest rankings, namely fifth in 2020 at 31.4%, in 2021 at 30.2%, in 2022 Southeast Sulawesi is in ninth place with a stunting prevalence of 27.7%. The prevalence of stunting in Kendari City in 2021 was 24%, then in 2022 it was 19.5%. Based on these data, it can be seen that the prevalence of stunting has not reached the target of the 2024 medium-term development plan (RPJM) of 14%, therefore, acceleration of stunting reduction is needed (5,6). Based on data from the Kendari City Health Office, in 2021 the prevalence of stunting was 0.95% and in 2022 it was 1.4% and in 2023 the January-October period was 1.69%, this shows an increase in the prevalence of Stunting in the work area of the Kendari City Health Office (6). The Kendari City Health Office has 15 Health Center work areas, and in general these Health Centers are located in the coastal areas of Kendari City, based on the results of the stunting data review, it can be seen that there are 3 Health Centers whose prevalence of stunting has increased and ranks highest every year, namely the Mata Health Center in 2021 by 3.85%, in 2022 by 5.68% and in 2023 (January-October) by 5.3%, then the Benu-Benua Health Center in 2021 by 3.70%, in 2022 by 4.49% and in 2023 (January-October) by 4.91%, then the Abeli Health Center in 2021 by 0.22%, in 2022 by 2.24% and in 2023 (January-October) by 3.23% (7).

Stunting in toddlers is caused by direct and indirect factors. One of the direct factors is macronutrient intake (protein, fat, carbohydrates). In addition, providing education in the form of counseling to mothers can affect the incidence of stunting, namely mothers who receive nutritional counseling will be exposed to nutritional information and have a positive effect on their knowledge and can provide adequate food to toddlers, thereby increasing toddler nutritional intake and having a direct impact on improving nutritional status (8).

This research area focused on the coastal area of Kendari City, where coastal areas generally have humidity that is very easy for the growth and development of bacteria and viruses and often interfere with the health of children under 5 years of age, so they are prone to nutritional disorders and if not addressed quickly will have an impact on decreasing nutritional status and eventually experiencing malnutrition (1). Mother's education and employment play a very important role in preventing and overcoming stunting. Based on the results of a preliminary survey of 10 mothers of toddlers in the coastal area of Kendari City, in general, the mother's education was in the low education category, namely 70% junior

high school graduates and 80% were unemployed. Therefore, the research question is what is the status of Mother's Employment and Education in Stunting and Non-Stunting Toddlers in the Coastal Area of Kendari City? andthe purpose of this study was to to find out the status of Employment and Education of Mothers in Stunting and Non-Stunting Toddlers in the Coastal Area of Kendari City.

MATERIAL AND METHODS

This type of research is descriptive research with a cross-sectional research design. The study population was all toddlers in the coastal area of Kendari City. This research was conducted in July-September 2024. The research sample was part of toddlers in the coastal area of Kendari City in 2024 consisting of 35 intervention groups and 35 control groups. Intervention samples were collected using cluster random sampling, while controls were collected by matching the gender and age of toddlers. Data collection on knowledge and education used questionnaires, while data on body weight used weight scales and toddler height was collected using microtoice. Furthermore, data analysis used descriptive analysis.

RESULTS

Table 1 shows that of the 35 intervention group samples, most were in the age range of 20-35 years (91.4%) with an average age of 29 years and the lowest age was 21 years and the highest age was 38 years. Likewise, in the control group, most were in the age range of 20-35 years (80%) with an average age of 30 years and the lowest age was 22 years and the highest age was 42 years. Furthermore, based on maternal education in the intervention and control groups, most were high school graduates, namely 45.6% in the intervention group and 54.1% in the control group. Then in terms of work, most mothers did not work, namely as housewives as much as 85.7% in the intervention group and 80% of the control group were housewives. The most common job is self-employed, namely 11.4% in the intervention group and 14.3% in the control group.

Table 1. Characteristics of Mothers with Toddlers in the Coastal Area of Kendari City

Variable	Mothers Who Have Toddlers			
	Intervensi		Kontrol	
	n (35)	%	n (35)	%
Mother's Age (Years)				
20-35	32	91,4	28	80
>35	3	8,6	7	20
Mean (Min-Max)	29 (21-38)		30 (22-42)	
Mother's Education				
Elementary School School	1	2,9	1	2,9
Junior High School	10	28,6	7	20,0
Senior High School	16	45,6	19	54,1
College (Diploma III/Strata 1)	8	22,9	7	20,0
Mother's Job				
Government employees	0	0	2	5,7
Private sector employee	1	2,9	0	0
Self-employed	4	11,4	5	14,3
Housewife	30	85,7	28	80,0

Table 2. Characteristics of Toddlers in the Coastal Area of Kendari City

Characteristics of Toddlers	Intervention		Control	
	n (35)	%	n (35)	%
Age (Month)				
7-11	25	35,7	25	35,7
12-23	4	5,7	4	5,7
24-35	6	8,6	6	8,6
Sex				
Man	18	51,4	18	51,4
Woman	17	48,6	17	48,6

Table 2 above shows that in the intervention and control groups, matching was carried out between age and gender, so that the number of stunted and normal toddlers aged 7-11 months was 25 people (35.7%), then 12-23 months were 4 people (5.7%) and 24-35 months were 5 people (8.6%). Furthermore, the gender of the toddlers was mostly male, 18 people (51.4%) and female, 17 people (48.6%).

Tabel 3. Distribution of TB, BB, and Z-Score of Toddlers in Coastal Areas Kendari City (n=35)

Variabel	Intervention (n=35)		Control (n=35)	
	Mean (Min-Max)	SD (Median)	Mean (Min-Max)	SD (Median)
TB (cm)				
Pre Test	73 (60-88)	8,7	74 (63-102)	10,1
Post Test	74 (64-91)	8,8	77 (66-104)	9,7
Difference	1 (4-3)	0,1	3 (3-2)	-0,4
BB (kg)				
Pre Test	9 (6-15)	2,8	10 (7-18)	2,6
Post Test	12 (7-17)	2,6	15 (10-23)	2,3
Difference	3 (1-2)	-0,2	5 (3-5)	0,3
Z-Score				
Pre Test	-2,19 (-3,37-(-0,63)	0,5	-0,19 (-1,96-1,99)	1,08
Post Test	-2,31 (-3,18-(-2,03)	0,3	-0,92 (-1,56-1,96)	1,09
Difference	-0,12 (-0,19-(1,4)	-0,2	0,73 (-0,4-0)	-0,01

Table 3 shows that the average height of stunted toddlers (intervention group) before nutritional assistance was 73 cm with the lowest height being 60 cm and the highest being 88 cm, then the average height of normal toddlers was 74 cm with the lowest height being 63 cm and the highest being 102 cm. Furthermore, the average weight of stunted toddlers was 9 kg with the lowest weight being 6 kg and the highest being 15 kg, then the average weight of normal toddlers was 10 kg with the lowest weight being 7 cm and the highest being 18 kg. Then the results of the Z-Score calculation for stunted toddlers, the average Z-Score was -2.19 and for normal toddlers the average Z-Score was -0.19. Then after nutritional assistance, the average height of stunted toddlers was 74 cm, weight reached 12 kg and Z Score reached -2.31. Meanwhile, in the control group, the initial measurement obtained an average TB of 74 cm and a final 77 cm, then the average initial BB was 10 kg and a final BB of 15 kg and the initial Z-Score was -0.19 and the final Z-Score of the measurement was -0.92.

DISCUSSION

This study showed that of the 35 intervention group samples, most were in the 20-35 year age range (91.4%) with an average age of 29 years and the lowest age was 21 years and the highest age was 38 years. Likewise, in the control group, most were in the 20-35 year age range (80%) with an average age of 30 years and the lowest age was 22 years and the highest age was 42 years. Mothers who give birth at a very young or very old age may be at higher risk of giving birth to children with stunting. Very young mothers (eg under 18 years of age) may not have fully developed physically and nutritionally, while older mothers may face certain health challenges that can affect child growth. However, other factors such as economic status, access to health care, and diet also play an important

role in stunting. This study also found that in both the intervention and control groups, most were high school graduates, namely 45.6% in the intervention group and 54.1% in the control group.

Maternal education has a significant influence on the nutritional status of toddlers, including stunting.(9) Mothers with higher levels of education tend to have better knowledge about nutrition, child care, and general health. This can have a positive impact on children's diet and health, reducing the risk of stunting. Conversely, mothers with lower education may lack the information or support needed to provide adequate nutrition and optimal health care for their children. The mother's role is greatest in shaping children's eating habits, because the mother is the one who prepares food from arranging the menu, shopping, cooking, preparing food, and distributing food. On the other hand, mothers with higher education usually work outside the home so that children are entrusted to grandmothers or other relatives. This causes mothers to be unable to carry out their roles optimally (10).

Then in terms of work, most mothers do not work, namely as housewives, as many as 85.7% in the intervention group and 80% of the control group are housewives. The most common job is self-employed, namely 11.4% in the intervention group and 14.3% in the control group. Housewives may have more time to care for their children and ensure they get proper nutrition compared to mothers who work outside the home. This can have a positive impact on children's health and growth. Housewives who have good access to resources such as nutritious food and health services tend to have children with a lower risk of stunting. Conversely, limitations in this access can increase the risk of stunting, regardless of the mother's occupation. Mother's occupation is also related to the family's education and economic status. Housewives who have good education and information about nutrition and health tend to be able to provide better care and food for their children, which contributes to stunting prevention (11-12).

The TB/U index reflects the nutritional status of toddlers in the past. Maternal education is fundamental to achieving good toddler nutrition. The mother's education level is related to the mother's ease in receiving information about nutrition and health from outside.(13) Mothers with higher levels of education will find it easier to receive information from outside, compared to mothers with lower levels of education. Care is a basic need for children to grow and develop optimally. During infancy, children are still completely dependent on the care and nurturing of their mothers. Health and food care in the first year of life is very important for child development. Childcare patterns are not always the same in each family. This is influenced by supporting factors including the mother's educational background, mother's job, mother's nutritional status, number of children in the family, and so on. Differences in maternal characteristics result in different parenting patterns that will affect the child's nutritional status. Several studies have concluded that a mother's educational status greatly determines the quality of her parenting. Mothers with high education will certainly be different from mothers with low education (14).

This study also shows that the average height of stunted toddlers (intervention group) before nutritional assistance was 73 cm with the lowest height being 60 cm and the highest being 88 cm, then the average height of normal toddlers was 74 cm with the

lowest height being 63 cm and the highest being 102 cm. Furthermore, the average weight of stunted toddlers was 9 kg with the lowest weight being 6 kg and the highest being 15 kg, then the average weight of normal toddlers was 10 kg with the lowest weight being 7 cm and the highest being 18 kg. Then the results of the Z-Score calculation for stunted toddlers, the average Z-Score was -2.19 and for normal toddlers the average Z-Score was -0.19. Then after nutritional assistance, the average height of stunted toddlers was 74 cm, weight reached 12 kg and Z Score reached -2.31. Meanwhile, in the control group, the initial measurement obtained an average of 74 cm TB and 77 cm at the end, then the average initial BB was 10 kg and 15 kg at the end and the initial Z-Score was -0.19 and the final Z-Score of the measurement was -0.92. The height of toddlers who experience stunting is generally lower than that of toddlers who grow normally. Stunting is a condition in which a child's height is below the normal standard for their age, usually measured by the WHO or CDC growth chart. The height of stunted toddlers is below the 3rd percentile or below -2 standard deviations from the average height for their age according to the growth chart. Stunting often occurs due to chronic malnutrition, recurrent infections, or other environmental and social factors that affect growth. In general, these differences in height reflect differences in nutritional intake, general health, and living conditions that affect child growth.5Penelitian ini ditemukan bahwa pada aspel jenis kelamin Balita sebagian besar adalah Laki-Laki sebanyak 18 orang (51,4%) dan Perempuan sebanyak 17 orang (48,6%). Penelitian ini sejalan dengan penelitian Iktiarti dkk, (2020) yang menunjukkan bahwa jenis kelamin laki – laki pada kasus lebih banyak yaitu sebesar 53,3%. Pada kelompok kontrol jenis kelamin laki-laki sebanyak 40% (15).

This difference reflects the impact of malnutrition or health conditions that inhibit growth in stunted toddlers. While toddlers who grow normally tend to have a height that is in accordance with the expected range for their age, indicating that they are getting adequate nutrition and care. Stunting is a nutritional health problem that indicates a condition of failure to grow in toddlers due to chronic malnutrition. Malnutrition occurs since the baby is in the womb and in the early period after the baby is born, however, stunting conditions only appear after the baby is 2 years old. Stunting is measured as nutritional status by considering the height or length of the body, age, and gender of the toddler.(16)

The occurrence of stunting is the impact of inadequate nutritional intake, both in terms of quality and quantity, high morbidity or a combination of both.(17) Integrated service post cadres and health workers conduct home visits by arranging visiting times in turns to the homes of toddlers and toddlers who are the targets of nutritional status screening.(18) The home visit is carried out when Posyandu is not carried out according to schedule due to the local government policy not to implement Posyandu so that growth monitoring activities are delayed.(19-20)

CONCLUTION

Mothers' jobs were not working, namely as housewives, as many as 85.7% in the intervention group and 80% in the control group were housewives. Most of the Mother's education in the intervention and control groups, most of them were high school graduates, namely 45.6% in the

intervention group and 54.1% in the control group.

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