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Lestari, Myrna; Hafisah, Hafisah; Elvieta, Elvieta; Akbari, Myrza

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Factors That Influence the Occurrence of Wasting in Toddlers

Myrna Lestari¹, Hafsa¹, Elvieta¹, Myrza Akbari²

¹ Health Polytechnic Institute of the Ministry of Health of Aceh

Jln. Soekarno - Hatta, Lagang. Kec. Darul Imarah, Kab. Aceh Besar, 23231, Indonesia

² Samudra University

Jalan Prof. Syarif Thayeb, Meurandeh, Langsa Lama, Aceh, 24416, Indonesia

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Corresponding Author:

Myrna Lestari

myrnalestari.abubakar@gmail.com

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Abstract. The general objective of this study was to identify and analyze the factors that influence wasting in toddlers at the Health Center. The research design used in this study was quantitative and qualitative with a cross-sectional approach. These approaches are carried out to answer research questions that cannot be fully answered with just one approach. Based on the study's results, there was no relationship between family income and the incidence of wasting in toddlers, as indicated by the results of the chi-square test analysis, $p = 0.230 > 0.05$ with a prevalence rate of 1.296 (95% CI) with a 1.29 chance. The chi-square test obtained $p = 0.230 > 0.05$ with a prevalence rate of 1.296 (95% CI), meaning there is no relationship between family income and wasting in toddlers, but families with income $< \text{Rp. } 2,246,725$ has a 1.29 times chance of having underweight toddlers compared to families with income $\geq \text{Rp. } 2,246,725$. Based on the results of the study, there was no relationship between mother's knowledge and the incidence of wasting in toddlers, as indicated by the results of the chi-square test analysis obtained a p-value of $0.001 < 0.05$ with a prevalence rate of 0.655 (95% CI) which means that there is a relationship between mother's knowledge and wasting in toddlers. Still, mothers with poor knowledge have a 0.655 times chance of having a thin baby compared to mothers with good knowledge.

Keywords: Factors; Wasting; Toddler.

INTRODUCTION

The nutritional condition of the Indonesian people at this time is still not encouraging. The dietary problems that often occur in Indonesia are malnutrition and difficulty eating. Factors that influence this condition include the level of the family's ability to provide nutritious food to the needs of family members, the knowledge and behaviour of mothers in selecting, processing and giving food to toddlers, and the availability and quality of nutritional health services for toddlers.

Nutrition is an essential part of the growth and development of a human being. Good nutrition is related to the development of one's intelligence. The nutritional status of infants and toddlers is an indicator of community nutrition and has been developed to become one of the indicators of community health and welfare. This is because infants and toddlers are very vulnerable to malnutrition problems. Malnutrition in the form of protein energy can be acute (wasting), chronic

(stunting) and acute and chronic (underweight) [1].

One-third of the number of child deaths worldwide is due to malnutrition. The age of children under five years is a stage of development of children susceptible to disease, including diseases caused by a lack or excess of nutritional intake. According to RI Law No 36 of 2009, one of the indicators used to assess the degree of public health is the healthy status score. The nutritional status of children under five is measured by the prevalence of stunting (height for age), underweight (weight for age) and wasting (weight for size). Through the Sustainable Development Goals (SDGs) program, the Government of Indonesia has set a target that by 2030 Indonesia will be free from all forms of malnutrition, reducing stunting and wasting in toddlers [2].

Wasting is a condition of acute malnutrition where a toddler's weight does not match his height or the score value exceeds -2 SD. Wasting

can result in disruption of the physical growth and intelligence of children. Even worse, it will have an impact on infant mortality. In 2012, under-five deaths due to wasting were 6.6 million, meaning 18,000 under-fives died daily. Indirectly loss contributes to 60% of under-five deaths as the underlying causes of infectious diseases as the direct cause of death. In 2013 more than 161 million children under five in the world suffered from hunger, where 51 million of them were suffering from waste [3].

The prevalence of wasting in Indonesia is still high and a public health problem. Based on primary health research data in 2013, 2013 out of 33 provinces in Indonesia, there were four provinces with the critical category and 17 areas with the severe type. Wasting is a serious public health problem if the prevalence ranges from 10.0%-14.0% and is considered essential if the majority of wasting is more than 15%. The bulk of wasting in Indonesia in 2013 was 12.1% (5.3% of children under five experienced severe wasting, and 6.8% of toddlers experienced wasting). The prevalence has decreased not too significantly in the last decade, namely 13.3% in 2010 and 13.6% in 2007 [4].

In the 2018 Riskesdas data report for the province of Aceh, the percentage of wasting events in the region of Aceh was 9.71%, while data from Aceh Besar was 15.28% (Ministry of Health RI, 2018). In 2019, Aceh Besar reported that the percentage of toddlers experiencing wasting was 10.1%.

In the initial survey by researchers at the Bayu Health Center, three toddlers experienced wasting in January-December 2021. Researchers met five mothers who had toddlers who participated in destroying. The first informant was a mother who had a 19-month-old toddler. The mother said her toddler only wanted to drink breast milk and wanted to eat but only a little. This happened maybe because of mothers' lack of knowledge in giving their toddlers food intake.

Based on these descriptions and explanations, this research aims to identify and analyze the factors influencing the incidence of wasting in toddlers.

METHOD

The research design used in this research is quantitative and qualitative with a cross-

sectional approach. These approaches are carried out to answer research questions that cannot be fully answered with just one system. Lindsay mentions five objectives of a combined qualitative and quantitative method [5], namely:

1. Triangulation in the classic sense of seeking convergence of results.
2. Complementary, the overlapping and different facets of the phenomenon may emerge.
3. Developmentally, where the first method is issued sequentially helps inform the second method.
4. Initiation, where contradictions and fresh perspectives emerge.
5. Expansion, wherein the mixed methods, scope, and breadth to study.

This research was conducted at the Syamtalira District Health Center, North Aceh District.

The population in this study were all mothers and toddlers who visited the Bayu Health Center in July 2022.

Sample for a quantitative approach. The model in this study is the entire population of mothers who have toddlers who visit the Bayu Health Center in August 2022.

Informants for a qualitative approach. The first informant in this study was a health worker who was in the nutrition department at the Bayu Health Center. The second informant in this study were mothers who had toddlers with wasting incidents at the Bayu Health Center from January to June 2022, totalling three people. The third informant in this study was a family of mothers with children with wasting incidents at the Bayu Health Center, totalling three people.

The data collection method in this study is:

Quantitative: Primary data in this study is obtained directly from respondents and collected through questionnaires and interviews. Secondary data in this study were data obtained from official documents from the nutrition officer on duty at the Health Center. Tertiary data is research data that has been officially published, such as journals and research reports.

Qualitative: In-depth interviews with informants using interview guidelines. Observation seeing the background of the informant's identity.

RESULTS AND DISCUSSION

After univariate analysis, the results of the re-search were carried out using bivariate analysis, namely by using the chi-square test, the relationship between the independent variables and the dependent variable with the significance limit of the p-value statistical calculation (0.05) [6], the following results were obtained:

The Relationship between Family Income and Wasting in Toddlers. Based on the results of cross-tabulation research on family income with the incidence of wasting in toddlers, can be seen in Table 1.

Table 1 – Cross Tabulation of Family Income Relationship with Wasting Incidents in Toddlers

| Family Income | Wasting in Toddlers | | | | Total | | P-value |
|-----------------|---------------------|-----|------|------|-------|-------|---------|
| | Not Skinny | | Thin | | | | |
| | f | % | f | % | f | % | |
| < Rp. 2.246.725 | 4 | 6,7 | 38 | 63,3 | 42 | 70 | 0,230 |
| ≥ Rp. 2.246.725 | 0 | 0 | 18 | 30 | 18 | 30 | |
| Total | 4 | 6,7 | 56 | 93,3 | 60 | 100,0 | |

The table above shows that of the 42 respondents with family income categories < Rp. 2,246,725, the majority have under five, as many as 38 respondents (63.3%), while out of 30 respondents with family income category ≥ Rp. 2,246,725, the majority have under five, as many as 18 respondents (30%). The results of the bivariate test using chi-square obtained a p-value of 0.230 > 0.05, meaning there is no significant relationship between family income and the incidence of wasting in toddlers.

Relationship between Mother's Knowledge and Wasting in Toddlers. Based on the results of the cross-tabulation research on mothers' knowledge of the incidence of wasting in toddlers can be seen in Table 2.

Table 2 shows that of the 32 respondents with poor maternal knowledge, the majority had thin toddlers, as many as 29 respondents (48.3%), while of the 28 respondents with good maternal understanding, the majority had thin toddlers, as many as 27 respondents (45%).

Table 2 – Cross-tabulation of the Relationship between Mother's Knowledge and Wasting in Toddlers

| Knowledge | Wasting in Toddlers | | | | Total | | P-value |
|-----------|---------------------|-----|------|------|-------|-------|---------|
| | Not Skinny | | Thin | | | | |
| | f | % | F | % | f | % | |
| Poor | 3 | 5 | 29 | 48,3 | 32 | 53,3 | 0,001 |
| Good | 1 | 1,7 | 27 | 45 | 28 | 46,7 | |
| Total | 4 | 6,7 | 56 | 93,3 | 60 | 100,0 | |

The results of the bivariate test using chi-square obtained a p-value of 0.001 > 0.05, meaning a significant relationship exists between mothers' knowledge and wasting in toddlers.

Relationship between Mother's Education and Wasting in Toddlers. Based on the results of cross-tabulation research on maternal education with the incidence of wasting in toddlers, it can be seen in Table 3.

Table 3 – Cross-tabulation of the Relationship between Mother's Education and Wasting Incidents in Toddlers at the Health Center

| Mother's Education | Wasting in Toddlers | | | | Total | | P-value |
|--------------------|---------------------|-----|------|------|-------|-------|---------|
| | Not Skinny | | Thin | | | | |
| | f | % | F | % | f | % | |
| Low | 4 | 6,7 | 38 | 63,3 | 42 | 70 | 0,359 |
| Hight | 0 | 0 | 18 | 30 | 18 | 30 | |
| Total | 4 | 6,7 | 56 | 93,3 | 60 | 100,0 | |

Table 3 shows that of the 18 respondents with the higher maternal education category, the majority had underweight toddlers, as many as 18 respondents (30%), while of the 42 respondents with the low maternal education category, the majority had underweight toddlers as many as 38 respondents (63.3%). The results of the bivariate test using chi-square obtained a p-value of 0.359 > 0.05, meaning there is no significant relationship between maternal education and wasting in toddlers.

Relationship between Mother's Occupation and Wasting in Toddlers. Based on the results of cross-tabulation research on family income with the incidence of wasting in toddlers, can be seen in Table 4.

Table 4 – Cross Tabulation of the Relationship between Mother's Occupation and Wasting Incidents in Toddlers at the Health Center

| Mother's Occupation | Wasting in Toddlers | | | | Total | | P-value |
|---------------------|---------------------|-----|------|------|-------|-------|---------|
| | Not Skinny | | Thin | | | | |
| | f | % | f | % | f | % | |
| Doesn't work | 2 | 3,3 | 36 | 60 | 38 | 63,3 | 0,468 |
| Work | 2 | 3,3 | 20 | 3,3 | 22 | 36,7 | |
| Total | 4 | 6,7 | 56 | 93,3 | 60 | 100,0 | |

The table above shows that of the 38 respondents in the category of non-working mothers, the majority had under-fives, as many as 36 respondents (60%), while of the 22 respondents in the category of working mothers, the majority had under-fives as many as 20 respondents (33.3%). The results of the bivariate test using chi-square obtained a p-value of $0.468 > 0.05$, meaning there is no significant relationship between mother's work and wasting in toddlers.

Relationship between food consumption and wasting in toddlers. Based on the results of cross-tabulation research on family income with the incidence of wasting in toddlers can be seen in Table 5.

Table 5 – Cross Tabulation of the Relationship between Food Consumption and Wasting Incidence in Toddlers

| Food Consumption | Wasting in Toddlers | | | | Total | | P value |
|------------------|---------------------|-----|------|------|-------|-------|---------|
| | Very Skinny | | Thin | | | | |
| | f | % | f | % | f | % | |
| Less Good | 4 | 6,7 | 23 | 38,3 | 27 | 45 | 0,036 |
| Good | 0 | 0,0 | 33 | 55 | 33 | 55 | |
| Total | 4 | 6,7 | 56 | 93,3 | 60 | 100,0 | |

The table above shows that of the 27 respondents in the poor food consumption category, the majority had underweight toddlers, and as many as 23 respondents (38.3%). In comparison, of the 33 respondents in the category of good food consumption, the majority had underweight toddlers, as many as 33 respondents (55%). The results of the bivariate test using chi-square obtained a p-value of $0.036 < 0.05$, meaning there is a significant relationship between mothers' knowledge and wasting in toddlers.

Relationship of Family Income with the Occurrence of Wasting in Toddlers. The results of the research data analysis showed that of the 60 respondents, there were 42 respondents with the category of family income $< \text{Rp. } 2,246,725$, the majority have under five, as many as 38 respondents (63.3%), while out of 18 respondents with family income category $\geq \text{Rp. } 2,246,725$, the majority have under five, as many as 18 respondents (30%).

Based on in-depth interviews conducted by researchers, informant 1 said that the average family of toddlers with wasting incidents had a family income $< \text{Rp. } 2,246,725$. This is according to informants 3 and 4, but not informants two because they have income $\geq \text{Rp. } 2,246,725$.

According to the researchers' assumptions, the absence of a relationship between family income and the incidence of wasting in toddlers is not caused by the amount of the family's income. Because mothers with family income $< \text{Rp. } 2,246,725$ still feels that it is sufficient to meet his household's needs and fulfil his toddler's nutrition by changing the food menu from fish, chicken and meat to tofu, tempeh and eggs. So sufficient income does not guarantee good nutrition for toddlers, and low family income also does not become a reason for wasting in toddlers [7].

Relationship between Mother's Knowledge and Wasting Incidents in Toddlers. The results of the research data analysis showed that out of 60 respondents, there were 32 respondents in the category of poor maternal knowledge, the majority had underweight toddlers, and as many as 29 respondents (48.3%). In comparison, of the 28 respondents in the category of good maternal knowledge, the majority had underweight toddlers. as many as 27 respondents (45%).

Based on the results of in-depth interviews conducted by researchers, informant 1 said they had often carried out outreach to mothers with toddlers. Meanwhile, informants 2, 3 and 4 said they had little knowledge about nutritious food for toddlers. This happened due to mothers' lack of interest in immunization activities and counselling conducted by nutrition officers [8].

According to the researcher's assumption, a mother's knowledge can be one of the factors that influence the incidence of wasting in toddlers because the results of qualitative research found a lack of mother's interest in participating in counselling conducted by the Health Center,

causing a lack of mother's knowledge about good nutrition for toddlers.

Relationship between Mother's Education and Wasting Incidents in Toddlers. The results of the research data analysis showed that out of 60 respondents, there were 38 respondents in the category of non-working mothers, the majority of whom had under-fives as many as 36 respondents (60%), while of the 22 respondents in the category of working mothers, the majority had under-fives as many as 20 respondents (33.3%).

Based on the results of in-depth interviews conducted by researchers, informant 1 said that, on average, mothers of toddlers with wasting incidents did not work. Informants 2 and 4 said that the informant was a housewife, while Informant 3 was a factory worker.

According to the researchers' assumptions, there is no relationship between the mother's occupation and the incidence of wasting in toddlers due to the lack of awareness of mothers in giving full attention to their toddlers. So even though the mother is not working, the toddler still does not get full attention. However, this differs from informant 3, who has to give custody of her child, to informant 6, her biological mother, because she has to work to support her household life. Informant 3 is the head of the household for his family because Informant 3 has separated from her husband, while her husband has never provided a living for her or her child. So according to the researchers' assumptions, there is a possibility that the mother's occupation is one of the factors that causes wasting in Informant 3's toddlers [9].

Relationship of Food Consumption with Wasting Incidents in Toddlers. The results of the research data analysis showed that out of 60 respondents, there were 27 respondents in the poor food consumption category, the majority had underweight toddlers, as many as 23 respondents (38.3%), while out of 33 respondents in the category of good food consumption the majority had underweight toddlers. as many as 33 respondents (55%).

Based on the results of the in-depth interviews conducted by the researchers, the informants were good at providing a variety of food menus for their toddlers. However, the informants still gave them foods containing MSG. However, another problem was that the toddlers were chal-

lenging to feed, and the informants lacked the patience to feed their toddlers. This can be seen from informants 2 and 4, who said they only provided their toddler when the toddler asked to eat, which meant that the toddler was not fed according to the meal schedule because the toddler had difficulty swallowing and would cry if forced. Meanwhile, informant 6 said he had been given a varied menu, but his toddler had trouble eating and was challenged to drink milk.

According to the researchers' assumption, food consumption is one factor influencing the incidence of wasting in toddlers. It is evident from the results of this study that respondents with poor food consumption had more thin toddlers than toddlers with good food consumption. This is to the effects of interviews conducted by researchers who found that one of the causes of toddler wasting is the mother's lack of patience in providing food intake to her toddler and not feeding her toddler according to the toddler's meal schedule because the toddler has already been fed so that the nutritional needs of the toddler is not fulfilled [10].

CONCLUSIONS

Based on the results of the study, it can be concluded that the factors that influence the incidence of wasting in toddlers are as follows:

1. There is no significant relationship between family income and waste.
2. A relationship exists between mothers' knowledge and the incidence of wasting in toddlers.
3. No meaningful relationship exists between a mother's education and the incidence of wasting in toddlers.
4. No significant relationship exists between a mother's work and the incidence of wasting in toddlers.
5. There is an essential relationship between food consumption and wasting in toddlers.
6. The interviews with the informants found that the informants did not participate in any immunization or counselling activities held by the Health Center as well as the lack of patience that the informants had in dealing with toddlers when providing food intake to toddlers.

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