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# Occurrence of Nutritional Status Problems (Stunting) in Cities and Villages in Children in Kediri

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**Abstract**

The current trend of maternal and child health problems is stunting. Health development 2015-2019 is focused on decreased in maternal and infant mortality, a decreased in the prevalence of short toddler (Stunting). The purpose of the study was compared stunting in the cities and village to children in Kediri. The research method used a comparative observation with the population of children in the City of Bangsal Kediri and Dusun Bulakdawung, Parang Kediri Village, with a sample of 49 children. Sampling using Nutritional Status based on BB/U and TB/U. Data was collected by observing spring and microtoise scales. The analysis used is Mann-Whitney. Nutritional status based on BB/U nutritional problems in the city 13.8% and in the village 5%, nutritional problems TB/U (stunting) in the city 3.4% and in the village 10%. Comparison of nutritional status based on BB/U p = 0.34 and TB/U p = 0.362 there is not significant. The main factor in nutritional problems is that the nutrients consumed are not appropriate, both in quality and quantity.The community in Parang Banyakan Village, Kediri is a mountainous community, the dominant vegetable protein rather than animal. Secondary factors of insufficient nutrition are caused by disruptions in the utilization of nutrients. In Kediri City Ward, children's malnutrition problems are not always caused by inadequate nutritional intake, child health factors such as disorders in children that cause nutrition cannot be absorbed by the body, and children experience the frequency of recurrent infections, so the child's nutrition is not for growth and development but to fight infection.



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## INTRODUCTION

Health Development aims to be able to increase awareness, willpower, and the ability to live a healthy life for everyone in order to realize the highest degree of public health. The framework of thought contains a very deep meaning that every generation must live a healthy life, one of which is the mother and her child. Maternal and child health efforts are an effort in the health sector to provide welfare, and as an effort to facilitate the community to form the nation's next generation. The goal of the maternal and child health program to achieve the ability a healthy life through increasing optimal health status for mothers and children and their families to accelerate the achievement of Indonesia's Health Development targets. The current trend of maternal and child health problems is stunting.

Stunting is a growth and development disorder that describes the failure to achieve growth and development potential as a result of poor health and/or nutritional status. Stunting is used as an indicator of chronic malnutrition that describes a child's history of malnutrition in the long term that stunting shows how the previous nutritional state was. Stunting occurs due to nutritional deficiencies (especially protein) that occur repeatedly over a long period of time during the fetus to the first two years of a child's life. Riskesdas mentioned that 35.6% of toddlers in Indonesia experience stunting problems, meaning that almost half of our toddlers have a height lower than the standard height of toddlers his age (Dirjenkesmas, 2017). Based on the results of research the main causes of stunting are nutritional problems in preschool-aged children such as lack of food intake and infectious diseases, maternal behavior in hygiene is still lacking and the home environment is less supportive for the growth of children.

Nutritional needs for the body is a basic human need that is very important. Judging from its usefulness, nutrition is a source of energy for all activities in the body system. Sources of nutrients in the body come from within the body itself such as glycogen contained in the muscles and liver or proteins and fats in tissues and other sources that come from outside the body as daily eaten by humans. Fulfillment of good nutrition needs in mothers and children can prevent stunting. To get good nutrition requires good knowledge to be able to present a balanced menu and serve hygienically. Nutrition is an organic substance that organisms need for the normal functioning of the body's systems, growth, and maintenance of health. The role of a nurse to prevent stunting can be in the form of meeting good nutritional needs. The action that can be done is to perform Health Eduction to the community (RI, Pedoman Gizi Seimbang, 2014). The purpose of the study compared the incidence of nutritional problems (Stunting) in cities and villages in children in Kediri.

## METHOD

The research method used is comparative observation with the population of children in Pesantren in Bangsal Village, Kediri City District and Bulakdawung Hamlet, Parang Village, Banyakan District, Kediri Regency, with a sample of 49 children consisting of 29 children in the city and 20 in the village. Sampling with the same sampling for every child who came at integrated healthcare center toddler in RW II Ward Village, and in Kindergarten PPK Parang Satu, the research varied, namely Nutritional Status based on BB/U and TB/U. Data collection with observers with spring scales and microtoise. Statistical analysis using Mann-Whitney with 0.05.

## RESULT

**Table 1 Comparison of Demographic Data on the Occurrence of Nutritional Status Problems in Children at Pesantren in Bangsal Village, Kediri District and Bulakdawung Hamlet, Parang Village, Banyakan District, Kediri Regency (n = 49)**

| No | Variable | Bangsal Village (City) | Dsn Bulakdawung (Village) |
|---|---|---|---|
| 1 | Number of children | 29 (59,2%) | 20 (40,8%) |
| 2 | Gender:Male Female | 16 (53,2%)13 (44,8%) | 8 (40%)12 (60%) |
| 3 | Average Age | 2,05 th | 5,6 th |
| 4 | Average Weight | 11,25 Kg | 17,4 Kg |
| 5 | Average Height | 84,5 cm | 106,6 cm |

**Table 2 Cross-Tabulation of Gender and Location with BB/U of The Incidence of Nutritional Status Problems in Toddlers in The Village Bangsal of Pesantren District of Kediri City and Hamlet Bulakdawung village Parang district Banyakan District Kediri (n = 49)**

| | | | BB/U | | | Total |
|---|---|---|---|---|---|---|
| | | | Thin | Usual | Fat | |
| Gender | Male | Count | 1 | 22 | 0 | 23 |
| | | % within type Gender | 4,3% | 95,7% | ,0% | 100,0% |
| | Female | Count | 4 | 20 | 2 | 26 |
| | | % within type Gender | 15,4% | 76,9% | 7,7% | 100,0% |
| | Total | Count | 5 | 42 | 2 | 49 |
| | | % within type Gender | 10,2% | 85,7% | 4,1% | 100,0% |
| Location | City | Count | 4 | 24 | 1 | 29 |
| | | % within Location | 13,8% | 82,8% | 3,4% | 100,0% |
| | Village | Count | 1 | 18 | 1 | 20 |
| | | % within Location | 5,0% | 90,0% | 5,0% | 100,0% |
| | Total | Count | 5 | 42 | 2 | 49 |
| | | % within Location | 10,2% | 85,7% | 4,1% | 100,0% |

Female tend to have a thin BB/U nutritional status (15.4%) compared to male sex (4.3%), and based on the location of the child in the city are more likely to be thin BB/U Nutrition status (13.8%) than children in the village (5%).

**Table 3 Cross Tabulation Location and Gender with Nutritional Status TB/U Comparison of The Incidence of Nutritional Status Problems in Toddlers in The Village Ward of Pesantren District of Kediri City and Hamlet Bulakdawung Village Parang District Banyakan Kediri (n = 49)**

| | | | TB/U | | Total |
|---|---|---|---|---|---|
| | | | Short/stuting | Usual | |
| Location | City | Count | 1 | 28 | 29 |
| | | % within Location | 3,4% | 96,6% | 100,0% |
| | Village | Count | 2 | 18 | 20 |
| | | % within Location | 10,0% | 90,0% | 100,0% |
| | Total | Count | 3 | 46 | 49 |
| | | % within Location | 6,1% | 93,9% | 100,0% |
| Gender | Male | Count | 1 | 22 | 23 |
| | | % within gender | 4,3% | 95,7% | 100,0% |
| | Female | Count | 2 | 24 | 26 |
| | | % within gender | 7,7% | 92,3% | 100,0% |
| | Total | Count | 3 | 46 | 49 |
| | | % within gender | 6,1% | 93,9% | 100,0% |

Comparison of TB/U nutritional ststus based on location that children in the village tend to have short nutritional status (10%) compared to children in the city (3.4%), while by gender tend to girls more short nutritional status (7.7%) than in the elderly aki-male (4.3%).

**Table 4 Test Comparison of The Incidence of Nutritional Status Problems (BB/U and TB/U) in Toddlers in The Village ward of Pesantren District of Kediri City and Bulakdawung hamlet of Parang village Banyakan of Kediri (n = 49)**

| | BB/U | TB/U |
|---|---|---|
| Mann-Whitney U | 261,500 | 271,000 |
| Wilcoxon W | 696,500 | 481,000 |
| Z | -,954 | -,931 |
| Asymp. Sig. (2-tailed) | ,340 | ,352 |

Based on Table 4, there is a comparison of BB/U p = 0.340 where p > α then there is no significant difference in the nutritional status of BB/U between children in the city and in the village. The ratio of TB/U p=0.352 where p > α then there was no significant difference between the nutritional status of TB/U between children in the city and in the village.

## DISCUSSION

### Nutritional Status based on BB/U

The results of research conducted in The Village of Pesantren District Of Kediri City and Bulakdawung village Parang village of district Banyakan of Kediri district showed the problem of thin nutrition in the city 13.8% and in the village 5%.

The problem of undernutrition in Indonesia in 2017 was 19.6% in toddlers (Dirjenkesmas, 2017). One of Indonesia's goals of healthy 2025 is a decrease in the prevalence of undernutrition in toddlers from 26% in 2005 to 9.5% in 2025 (Kemenkes, 2009). According to Almatsier (Almatsier, 2012) there are two factors that affect the utilization of nutrients by the body, namely primary factors and secondary factors. Primary factors are food intake factors that can cause insufficient or excessive nutrients and secondary factors are factors that affect the utilization of nutrients in the body. (Dirjenkesmas, 2017).

In the primary factor, the problem of thin nutrition is caused by the arrangement of food consumed is not right both quality and quantity. In general, the people in the hamlet of Bulakdawung village of Parang district of Banyakan District Kediri is a mountain community with a topographic slope of 15-45 degrees, the plan diet is more dominant than the animal diet. Factors that cause thin nutrition problems in the village of Bangsal district Pesantren Kediri city and Bulakdawung hamlet Parang village many districts Kediri among others are: First poverty, the community in this research location is a community with a poverty line that includes high with jobs as farmers and farm workers, while the land can only be planted only in the rainy season. The second is knowledge. Low knowledge about the importance of nutrients for health. The level of public knowledge is low because many educated people are still in elementary school and access to information on health is very minimal.

### Nutritional Status based on TB/U

The results of research conducted in the Pesantren Bangsal Village, Kediri City and Bulakdawung Village, Parang Banyakan District, Kediri, showed that nutritional problems (short/stunting) in the city were 3.4% and in the village 10%.

Stunting is a condition where a person's height is shorter than his age (Dirjenkesmas, 2017). Length-Height by Age (PB-TB/U) indicates achievement of body length relative to age compared to median (Line 0). Nutritional Status of boys aged 0-2 years and 2-5 years with a PB-TB / U index: below -2 SD is called short, below -3 elementary school is called Very Short (Titus et al, 2017). Stunted children who show failure increase in height according to the size of friends of the age. Short Toddler (Stunting) is a nutritional status based on the PB / U index or TB / U where in anthropometric standards assessment of child nutritional status, the measurement results are at the threshold (Z-Score) <-2 SD up to -3 SD (short / stunted) and <-3 SD (very short / severely stunted) (Rahmadhita, 2020). The child will look shorter and this will interfere with psychosocial in the child. The size of the child's height on a proposed and average basis indicates the level of communal nutritional fulfillment. The average height of a person in a period of time will experience an increase along with economic and community welfare, if many children who experience stunting lead to low community welfare. Currently Indonesia is faced with the problem of Stunting (short) which is quite high when compared to other countries, compared to ASEAN countries even the number of Stunting Indonesia is still classified as the highest. Based on the results of PSG's 2016 study, showed that the number of toddlers who are classified as very short by 8.5%, and relatively short by 19.0% (Titus, 2017).

When compared with the national prevalence of stunting in kindergarten PKK Parang I tends to be better, this indicates that health development is starting to show results. Factors that cause stunting problems both in the village of Bangsal Pesantren Ward, District of Kediri City and Hamlet of Bulakdawung, Parang Banyakan Village, Kediri District among others is first is livelihood. Father as the head of the family many who work outside the area and mothers as a household and also make a living in agriculture. The second is diet. Breastfeeding patterns that have not been exclusive, as well as the pattern of giving drinks in bottles as PMT breast milk is not milk but often still sugar water, the animal diet for children is still low. The third is parenting. Children who experience malnutrition problems both the village of Bangsal Pesantren in the city of Kediri and the hamlet of Bulakdawung, Parang village, Banyakan sub-district, Kediri district both parenting fostered by grandmothers with low education and low socioeconomic as well.

**Comparison of Nutritional Status Issues in Cities and Villages Based on BB/U and TB/U**

The results of research conducted in the village of Bangsal Pesantren Kediri city and Bulakdawung village Parang sub-district Banyakan, Kediri district show BB/U $p = 0.34$ where $p > \alpha$ and TB / U $p = 0.352$ where $p > \alpha$ so there is no significant difference in the incidence of nutritional problems in children in the city and in the village based on the nutritional status of BB/U and TB/U. It concluded that the problem of nutrition based on BB/U in the city tends to be larger than in the village, and the problem of nutrition based on BB/U in the city tends to be bigger than in the village, and the problem of nutritional status of TB/U in the village tends to be bigger than in the city but there is no significant difference. The primary factor of nutritional problems is caused by the composition of the food consumed is not appropriate, both in quality and quantity. The community in Parang Banyakan Village, Kediri is a mountainous community with a topographic slope of 15-45 degrees, a plant-based diet is more dominant than an animal-based diet. Secondary factors related to insufficient nutrients are caused by disturbances in the utilization of nutrients.

The problem of undernutrition in Indonesia in 2017 was 19.6% in toddlers (Dirjenkesmas, 2017). One of Indonesia's healthy goals in 2025 is a decrease in the prevalence of undernutrition in toddlers from 26% in 2005 to 9.5% in 2025 (RI, Rencana Pembangunan Kesehatan Jangka Panjang, 2009).

The results of preschool-age research on nutritional status are less when compared to the lower national average, but it should be noted that the national average also needs to be compared with the regional average, if seen the prevalence tends to decrease this shows government programs in health development, especially nutrition problems meet the point of success and need to be improved continuously so that health development goals in 2025 can be achieved.

According to Almatsier (Almatsier, 2012) there are two factors that affect the utilization of nutrients by the body, namely primary factors and secondary factors. Primary factors are food intake factors that can cause insufficient or excessive nutrients and secondary factors are factors that affect the utilization of nutrients in the body (Titus, 2017).

In the primary factor is caused by the arrangement of food consumed is not right both quality and quantity. In general, the people in the machete village of Banyakan Kota Kediri district are mountain communities with a topographic slope of 15-45 degrees, the plant-based diet is more dominant than the animal diet. Secondary factors related to nutrients are not sufficient needs due to disruptions in the utilization of nutrients. In general, the community in the village of Bangsal district Pesantren Kediri city occurs the problem of malnutrition in children is not always by the intake of less nutrients, the factors of the child's health condition also need to be examined, whether there are disorders in the child that cause nutrition can not be absorbed by the body, or children increase the frequency of recurrent infections, so that the child's nutrition is not for growth and development but to fight infections that occur. Therefore, further examination of malnourished children in kindergarten PKK Parang I needs to be done with examination to public health center Banyakan Kediri and further examination on malnourished children in Bangsal village needs to be done with examination at the health center Pesantren I of Kediri City.

One of the strategies of the 2018 public health program is to accelerate the Improvement of Community Nutrition and community Nutrition Program

of supplemental feeding to underweight toddlers (Dirjenkesmas, 2017).

School-age children who are underweight or very thin nutritional status should be reported to the health cadres and forwarded to the health center Banyakan and Pesantren I in order to get attention and obtain additional nutrition programs through Supplemental Feeding for School Children (PMT-AS) from health center. The role of the teacher to communicate and bridge children to gain access to nutrition services is needed.

Stunting is a chronic malnutrition problem caused by insufficient nutritional intake for a long time due to feeding that is not in accordance with nutritional needs. Stunting can occur starting the fetus is still in the womb and only seen when the child is two years old (RI, Situasi Balita Pendek, 2016).

Stunting in preschool-aged children at the location of community service occurs not in the short term, this occurs during the process of care by the family, related to the fulfillment of nutrition from the fetus to the current condition. Stunting can occur starting from the fetus is still in the womb and only appears when the child is two years old, and if not balanced with catch-up growth (growing up chasing) resulting in decreased growth, stunting problems are public health problems associated with increased risk of pain, death and barriers to growth both motor and mental. (Novery, 2021)

Stunting is shaped by inadequate growth faltering and catcth up growth that reflects the inability to achieve optimal growth (WHO, 2014). The health condition of the mother during pregnancy will affect nutrition for fetal development. The cause of stunting is the lack of nutritional intake received by children/babies (Dirjenkesmas, 2017). At the age of infants the role of exclusive breastfeeding and the knowledge and skills of the mother is very important in providing nutritional intake after the needs of the child, if there is a failure in nutritional care can cause stunting. This is in line with the results of Eko Setiawan's research stating that the level of energy intake, history of the duration of infectious diseases, birth weight, maternal education level and family income level with stunting events (Setiawan, 2018), as well as the results of research yuanti and Festi that state nutritional status, health problems in children, instant food eating habits, and maternal height related to stunting in toddlers (Yuwanti & Festi, 2021)

The impact of stunting is easily sick, cognitive ability is reduced, risk of diseases related to diet, unbalanced body functions, resulting in economic losses, improper posture as an adult (Dirjenkesmas, 2017). In children who experience stunting will tend to easily experience pain, especially infectious pain because of low endurance. Diseases such as cough, cold, diarrheal fever will be easily suffered by children. If the child is easily sick, of course, the cost of health in children will increase this will be an additional burden of the family economy. Infectious diseases that are high in frequency in children, nutrient intake will be focused on fighting infection so that in the long run the child fails to grow and become shorter than the child.

Stunting program management there are 3 main pillars: 1. Adequate Nutrition Consumption, 2. Proper parenting, 3. Access to health services, and environmental health, which are spelled out in 11 activities include: 1. Tablets Add Blood (young women, brides-to-be, and pregnant women), 2. Exclusive Breastfeeding Promotion, 3. Promotion of Complementary Foods 4. Micronutrient supplements (Taburia) 5. Macronutrient supplements (PMT) 6. Nutritional Management Is Lacking/Bad 7. Vit A supplementation 8. Promotion of iodine salts 9. Clean water, sanitation, and hand washing using soap 10. Drug 11. Non-Cash Food Assistance (Dirjenkesmas, 2017).

## CONCLUSION

The conclusion in this study is that nutrition problems based on BB / U in the city tend to be larger than in the village, and the problem of TB/U nutritional status in the village tends to be greater than in the city but there is no significant difference.

## SUGGESTION

Increasing the role of formal (school) and general communities, especially families in overcoming stunting and nutrition problems in children is very important. School can carry out periodic monitoring of nutritional status with a nutritional status measurement program every month and hold additional feeding programs every thursday (in the village of Bangsal, Pesantren district, Kediri city) saturday (Bulakdawung village Parang district of Banyakan Kediri district) through self-help parents/guardians of students. Mothers as the main role of

foster care in children must have a high awareness that the nutritional status in children is an inventation of the child's future. Mothers need to continue to increase knowledge about the prevention and handling of stuting problems by actively accessing information through both digital and conventional means.

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