JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

FOOD INTAKE AS A DETERMINANT OF NUTRITIONAL STATUS IN TODDLERS IN CARAT VILLAGE

Aprilya Tunggo Dewi[1*]
[1]AKBID Ar Rahma Pasuruan
*Email: aprilya.tunggo90@gmail.com

Article Info:
Submitted: 3rd June 2025
Accepted: 4th June 2025
Published: 5th June 2025

Handling Editor:
5th June 2025

Keywords:
Food Intake;
Nutritional Status;
Toddlers

ABSTRACT

Introduction: The nutritional needs of children under five are increasing because they are in a phase of rapid growth and high physical activity. SSGI data for 2022 shows that in Pasuruan District in 2022, stunting reached 20.5%, wasting reached 12.4%, underweight reached 21.4%, and overweight reached 6.2%. One of the direct contributing factors to stunting is insufficient nutrient intake. **Methods:** The type of research applied was quantitative analysis with a cross-sectional design. The study period was from September 30 to October 05, 2024, with a population of 339 children under five. Sampling was done by purposive sampling, so that 75 toddlers were obtained. The process of collecting food consumption data was carried out using a food record form for 1x24 hours, and evaluating the nutritional status of toddlers using the BB / U index. Data analysis using the Chi-Square test to analyze the relationship between carbohydrate, protein, and fat intake with nutritional status. **Results:** This study shows that there are 24 respondents (23%) of toddlers with abnormal nutritional status characteristics and 51 respondents (68%) with normal nutritional status. The number of respondents who had sufficient carbohydrate intake was 58 people (77.3%), for sufficient protein intake, there were 46 respondents (61.3%), and the number of respondents with sufficient fat intake was 49 people (65.1%). The results of bivariate analysis showed that there was a relationship between carbohydrate intake and nutritional status (p=0.001), there was a relationship between protein intake and nutritional status (p=0.001), while there was no relationship between fat intake and nutritional status of toddlers (p=0.440). **Conclusion:** There is a relationship between food consumption and the nutritional status of children under five in Carat village in 2024. The intake of carbohydrate, protein, and fat for children under five needs to be increased to support their growth period.

1. INTRODUCTION

Insufficient food intake can lead to growth and development problems, especially during the growth period, which can affect the structure and function of the brain. During the twenty-four to forty-two weeks after conception, the human brain undergoes impressive structural and functional transformations. This development continues after birth until the age of two or three years, so that brain cell growth continues until the age of three. Malnutrition in children under two years of age can result in a decrease in brain cells by 15 to 20 percent, so that the quality of brain cells at a later age ranges from 80 to 85 percent.[1] The World Health Organization (2021) states that malnutrition includes nutritional deficiencies consisting of wasting, stunting, and underweight; micronutrient deficiencies as well as overweight, obesity, and diet-related non-communicable diseases, such as heart disease, stroke, diabetes, and some types of cancer.[2] Nutrition plays a very important role

* Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan
aprilya.tunggo90@gmail.com, 082233333658

JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

in the growth and development of children, success in providing adequate nutrition and intake for toddlers will be very clear.[3]

According to WHO, in 2022, there were 148.1 million children under 5 years old who experienced stunting, 45.0 million who experienced wasting, and 37.0 million who were overweight for their height.[4]

Based on SSGI data in 2022, at the East Java provincial level, stunting was 19.2%, while wasting was 7.2%, underweight was 15.8%, and overweight was 3.6%. Then, at the Pasuruan district level, according to the 2022 Indonesian nutritional status survey (SSGI), stunting was 20.5%, wasting was 12.4%, underweight was 21.4%, and overweight was 6.2%.[6]. Nutritional problems that occur in Carat Village, Gempol District, Pasuruan Regency, according to a preliminary study conducted on 10 toddlers, there are cases of stunting of 20%, wasting of 10%, underweight of 30%, overweight of 10%, and toddlers with normal nutritional status of 30%.

During the observation and initial data survey, there were nutritional problems that emerged, namely inadequate and unbalanced food intake, which was based on a lack of knowledge. Efforts have been made by village midwives and cadres in Carat Village, namely assisting in the form of PMT in the form of toddler biscuits and malnutrition drugs, whose doses are adjusted to the toddler's weight. So far, the government's program has been running well, but there is a lack of active participation from parents of toddlers. Therefore, the problem of providing the right intake should be overcome so that the child's future is not hampered by nutritional problems.

Nutritional problems will arise due to food consumption that does not meet the body's needs. Changing the body's chances of disease, and this often occurs in developing countries or regions.[7]

During the observation and initial data survey, there were nutritional problems that emerged, namely inadequate and unbalanced food intake, which was based on the knowledge of parents who did not understand the concept of nutrition. The impact of malnutrition on infants in the future is very worrying. The problem is not only stunted growth, but infants may also lack the energy to carry out activities, the baby's immune system is also disrupted, and brain function development does not occur. There are also consequences of overeating, namely the risk of obesity and degenerative diseases.[8] One of the causes that can affect nutritional status is food intake.

According to Jauhari and colleagues, a good diet is the cause of optimal nutritional status in children. Healthy food consumed every day can provide nutrients that can meet the body's needs.[9] Nutrition can be obtained from macro and micro nutrients. Considering this, researchers conducted research in the village.

Efforts made by health institutions such as village midwives and cadres in Carat village are to assist in the form of PMT in the form of toddler biscuits and medicine for malnutrition, whose doses are adjusted to the weight of the toddler. Until now, the government program has been running smoothly, but there is a lack of active involvement from parents of toddlers. Therefore, the problem of providing the right intake can be handled in the health sector or across sectors so that the incidence of malnutrition in toddlers in Indonesia can be overcome, and does not happen again, so that the child's future is not hindered by nutritional problems. Education is also very crucial to be given to increase the understanding of parents, especially mothers, regarding the fulfillment of nutrition for their families in order to prevent nutritional problems in toddlers. [10]

* **Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan**
aprilya.tunggo90@gmail.com, 082233333658

JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

2. METHODE

This research is quantitative using an analytical survey method, which is a type of research conducted to obtain facts or data in the field. The approach used is cross-sectional; data related to food intake and nutritional status are measured and collected simultaneously. The sample applied in this study was 75 toddlers from the total toddlers in Carat Village. The calculation uses the following Slovin Formula:

$$n = \frac{N}{1+Ne^2}$$

$$n = \frac{309}{1+309\,(0,1)^2}$$

$$n = \frac{309}{4,09}$$

$$n = 75$$

The sampling method applied is purposive sampling, which is a sample selection method carried out by selecting subjects based on certain criteria determined by the researcher. The inclusion criteria for this study are: mothers who live in Carat Village, mothers who have toddlers, healthy toddlers, cooperative mothers, and for the exclusion criteria: toddlers who are sick; Mothers who do not want to be respondents.

Instruments used: 1x24 Hour Food Recording Questionnaire is one of the consumer survey methods that examines or asks what participants have eaten and drunk both inside and outside the home in the last 24 hours. This method is the most widely used in research because it is relatively accurate, quick to do, cheap, and does not require expensive equipment. The principle of the 24-hour food recall method is an interview to ask about food consumed within 24 hours, and then processed further using the Nutrisurvey Application and observation sheets. Data analysis was carried out using univariate and bivariate methods using the chi-squared test.

3. RESULTS AND DISCUSSION

Univariate analysis

The univariate results in this study describe the frequency distribution as follows:

Table 1. Frequency Distribution of Toddlers by Gender, Age Group, Food Intake, Nutritional Status

Variables	*Frequency Distribution* f	%
Gender		
Man	40	53,3
Woman	35	46,7
Age		
1-3 Years	62	82,7
4-5 Years	13	17,3
Carbohydrate		
Not enough	17	22,7
Enough	58	77,3
Proteins		
Not enough	29	38,7
Enough	46	61,3
Fat		
Not enough	26	34,7
Enough	49	65,3
Nutritional status		
Abnormal	24	32,0
Normal	51	68,0

Table 1 shows that the characteristics of the respondents are mostly male, with a total of 40 people (53.3%) compared to 35 female respondents (46.7%). Most of the respondents are aged 1-3 years, as many as 62 people (82.7%), compared to 39 respondents aged 4-5 years (17.3%).

Table 1 also shows that food intake is divided into 3 categories, namely carbohydrates, proteins, and fats, with the following details: respondents with sufficient carbohydrate intake were 58 respondents (77.3%), and insufficient carbohydrate

* Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan
aprilya.tunggo90@gmail.com, 082233333658

JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

intake was 17 respondents (22.7%). Then, respondents with insufficient protein intake were 46 (61.3%), and the sufficient protein intake was 29 (38.7%). Among the respondents, those with insufficient fat intake numbered 49 (65.3%), while those with sufficient fat intake totaled 26 (34.7%).

Food intake is information about the amount and type of food eaten or consumed by a person or group of people at a certain time.[1] Insufficient energy intake will result in toddlers experiencing a slow growth rate, Inadequate energy intake will result in fat and protein being used to produce energy; this condition causes fat and protein to lose their main function, which will have an impact on growth disorders in toddlers.[12] Factors that influence food intake on the nutritional status of infants and toddlers are: education, understanding of nutrition, parenting patterns, eating habits, food hygiene, ability to purchase food, and infectious diseases.[1]

Based on the facts and theories that have been presented, the village health workers and the Carat village government need to increase the level of good food intake for its residents, especially for toddlers in the village. The Carat Village Government must conduct a comprehensive evaluation of the factors that influence the fulfillment of food intake in toddlers. Providing knowledge, such as through socialization or printed media distributed in every corner of the village about food intake to parents of toddlers, will also improve the provision of food intake to toddlers.

Table 1 also explains that the majority of the nutritional status of 51 respondents is normal (68%), and the nutritional status of 24 respondents is in the abnormal category (32%). Nutritional status is a reflection of the balance of conditions expressed through certain variables.[13] According to Iqbal and Puspaningtyas, nutritional status reflects the extent to which nutritional needs are met through the intake and utilization of nutrients by the body. To evaluate the nutritional status of infants and toddlers, a nutritional status assessment is needed.

Factors that influence nutritional status according to Nurapriyanti and Sarwinanti include several aspects, namely: parenting patterns, disease infections, food consumption, health services, food security, environmental conditions, exclusive breastfeeding, education level, knowledge, type of work, and number of families. Based on the facts and theories that have been presented, Health Workers and the Carat Village government still need to make efforts to increase the number of toddlers with good nutritional status, because the number of abnormal nutritional statuses reported by researchers is still a number that must be minimized so that the welfare of parents and toddlers in the village is more prosperous as a whole.[1]

* Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan
aprilya.tunggo90@gmail.com, 082233333658

JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

Bivariate analysis

The results of the bivariate analysis of the data revealed the following relationships.

Table 2. Distribution of food intake frequency on the nutritional status of toddlers in Carat Village in 2024

Food Intake	Nutritional status						p-value
	Abnormal		Normal		Total		
	f	%	f	%	f	%	
Carbohydrate							
Not enough	13	61,9%	8	38,1%	21	100%	0,001
Enough	11	20,4%	43	79,6%	54	100%	
Proteins							
Not enough	16	55,2%	13	44,8%	29	100%	0,002
Enough	8	17,4%	38	82,6%	46	100%	
Fat							
Not enough	10	38,5%	16	61,5%	26	100%	0,539
Enough	14	28,6%	35	71,4%	49	100%	

Table 2 shows that of the 21 respondents who were deficient in carbohydrates, 13 respondents (61.9%) were in the category of abnormal nutritional status, and 8 respondents (38.1%) had normal nutritional status. Meanwhile, of the 54 children who received sufficient carbohydrate intake, 43 children (79.6%) had normal nutritional status, and 11 children (20.4%) had poor nutritional status. The results of the chi-square statistical analysis showed a p-value = 0.001, so it can be concluded that there is a relationship between carbohydrate consumption and the nutritional status of toddlers in Carat Village in 2024.

For protein intake, it is known that of 29 children who lack protein intake, 16 children (55.2%) were identified with poor nutritional status and 13 children (44.8%) with good nutritional status. Meanwhile, of the 46 children who received adequate protein intake, 38 children (82.6%) had good nutritional status, and 8 children (17.4%) had poor nutritional status. The results of the chi-square statistical analysis showed a p-value = 0.002, which means that the concentration of protein intake was significantly related to the nutritional status of toddlers in Carat village in 2024.

For fat consumption, it is known that out of 26 children with low fat intake, 10 children (38.5%) have poor nutritional status and 16 children (61.5%) have good nutritional status. Meanwhile, out of 49 children with sufficient fat intake, 35 children (71.4%) have good nutritional status, and 14 children (28.6%) have poor nutritional status. The results of the chi-square statistical analysis showed a p-value of 0.539, so it can be concluded that there is no relationship between fat intake and nutritional status of toddlers in Carat village in 2024.

The results of this study related to fat intake not being related to nutritional status are not in line with what was conveyed in Salsabila, Syagata, and Ciptanuari (2025)[14] This explained that fat intake will increase the risk of developing nutritional status problems or being overweight. Overweight is often caused by the accumulation of excess fat stored by the body in adipose tissue, which triggers an increase in fat tissue. So that fat intake has a significant relationship with nutritional status, which will cause the

* Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan
aprilya.tunggo90@gmail.com, 082233333658

JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

risk of developing nutritional status problems or overweight.

This nutritional status can be influenced by other factors, including the mother's level of knowledge, the role of officers.[15]Exclusive breastfeeding, family income, parenting patterns, basic immunization status, and mother's education.[16]

The nutrition children receive from their parents' diet will influence their nutritional health. According to the findings of this research, it was determined that participants who offer nutritious food will lead toddlers to achieve a healthy nutritional status. A diet is deemed balanced if the nutritional status is regarded as good. In simpler terms, the different frequencies and kinds of food consumed must satisfy the body's requirements.[1]

A balanced diet includes energy food sources, building materials, and regulating substances since all nutrients are essential for the body's growth and maintenance, brain development, and work efficiency, and

should be consumed in adequate amounts based on individual requirements. A safe and balanced daily diet is beneficial for attaining and sustaining optimal health and nutritional status.[17] The results of this study are in line with research conducted by Natalina et al. (2023[18], which explains that fulfilling children's food intake needs is related to nutritional status.

Based on the factors and theories that have been explained, good food consumption will affect the nutritional status of toddlers, which is also good. However, good nutritional intake for toddlers is obtained from parents who care for them. The role of the government and health workers around is also important to continue to support and educate parents in providing adequate food intake for their children. The effect of minimal food intake can cause stunting or underweight in toddlers, which results in suboptimal toddler growth. Of course, parents do not want this to happen, so toddler health is very dependent on the wise decisions of parents.

4. CONCLUSION

The conclusion of this study shows that most of the carbohydrate intake is sufficient, protein intake is sufficient, and fat levels are sufficient. Toddlers with normal nutritional status are more than those with abnormal nutritional status, and there is a relationship between carbohydrate and protein food consumption and the nutritional status of toddlers in Carat Village.

Suggestions for further research by analyzing other factors such as parenting patterns, economic status, and cultural factors that affect nutritional status, which are tested multivariately. As well as suggestions for mothers to increase parental knowledge, especially regarding the need for proper nutrition for toddlers.

5. ACKNOWLEDGMENTS

The researcher would like to thank all related parties, especially Carat Village and LPPM AKBID Ar Rahma, who contributed to the continuation and completion of this research.

6. REFERENCES

1. Mutia D. *Hubungan Asupan Makanan Dengan Status Gizi Pada Balita Usia 1-3 Tahun Di Desa Pengeragoan*. Vol 10.; 2021.
2. Rizkia P, Sekarwana N, Damailia R. Hubungan Asupan Zat Gizi Makro dengan Status Gizi pada Anak Usia 2-5 Tahun di Puskesmas Karang Tengah Kabupaten Cianjur. *Bandung Conf Ser Med Sci*. 2023;3(1):2787-2797. doi:10.29313/bcsms.v3i1.6007

* **Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan**
aprilya.tunggo90@gmail.com, 082233333658

JURNAL PENELITIAN SEKOLAH TINGGI ILMU KESEHATAN NAHDLATUL ULAMA TUBAN
https://ejournal.iiknutuban.ac.id/index.php/jp
E-ISSN: 2686-4959
P-ISSN: 2338-5898
VOL. 7 NO.1 June. Page 15-21

3. Ningsih NK, Aninda. Hasil Studi Status Gizi Indonesia 2021 (SSGI) Kementerian Kesehatan (Kemenkes). 2024;9(2).
4. UNICEF, WHO, WORLD BANK. Level and trend in child malnutrition. *World Health Organ*. Published online 2023:4.
5. Josri Mandiangan, Marsella D. Amisi, Nova H. Kapantow. Hubungan antara Status Sosial Ekonomi dengan Status Gizi Balita Usia 24-59Bulan di Desa Lesabe dan Lesabe 1 Kecamatan Tabukan Selatan. *J Peremp dan Anak Indones JPAI*. 2023;5(Maret):73-80.
6. Kemenkes RI. Status Gizi SSGI 2022. *BKPK Kemenkes RI*. Published online 2022:1-156.
7. Herlambang A, Wandini R, Setiawati S. Faktor-Faktor Yang Mempengaruhi Status Gizi Balita. *J Kebidanan Malahayati*. 2021;7(4):673-680. doi:10.33024/jkm.v7i4.4407
8. Anggraeni LD, Toby YR, Rasmada S. Analisis Asupan Zat Gizi Terhadap Status Gizi Balita. *Faletehan Heal J*. 2021;8(02):92-101. doi:10.33746/fhj.v8i02.191
9. Permatasari I, Ritanti R, Siregar T. Hubungan Pola Makan Anak dan Status Gizi Anak Usia Sekolah. *J Kesehat*. 2023;12(1):209-213. doi:10.46815/jk.v12i1.114
10. Annisa Nuradhiani. Faktor Risiko Masalah Gizi Kurang pada Balita di Indonesia. *J Ilm Kesehat Masy Dan Sos*. 2023;1(2):17-25. doi:10.59024/jikas.v1i2.285
11. Jumaisah, Sri Wahyuni, Veny Elita. *Gambaran Mekanisme Koping Keluarga Dalam Menghadapi Perilaku Agresif Pada Pasien Skizofrenia*. Vol. 6.; 2023. doi:10.33369/jvk.v6i1.25069
12. Trianindy. *Gambaran Asupan Energi, Protein Dan Lemak Pada Anak Balita Status Gizi Lebih Di Wilayah Kerja Puskesmas Lambuya*.; 2022.
13. Kartini, Arbiyah, Rasjid WSH, et al. *Gizi Pada Bayi Dan Balita*.; 2023.
14. Salsabila HH, Syagata AS, Ciptanurani C. Hubungan asupan lemak dengan status gizi remaja putri di MA Muallimaat Yogyakarta. In: *Prosiding Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat*. Vol 3. LPPM Universitas 'Aisyiyah Yogyakarta; 2025:209-219.
15. Andayani RP, Afnuhazi R. Faktor-Faktor Yang Berhubungan Dengan Status Gizi Pada Balita. *J Kesehat Mercusuar*. 2022;5(2):41-48. doi:10.36984/jkm.v5i2.309
16. Timur CJ, Irianto SE, Rahayu D. Analisis Faktor Yang Mempengaruhi Status Gizi Pada Balita Di Kabupaten Lampung Utara. *JPKM J Profesi Kesehat Masy*. 2023;4(2):85-93. doi:10.47575/jpkm.v4i2.491
17. Picauly I, Sakke Tira D, Pellokila M. Pentingnya Pola Makan Beragam, Bergizi, Seimbang, Dan Aman Dalam Upaya Percepatan Penurunan Stunting Di Wilayah Kerja Puskesmas Sumlili Kecamatan Kupang Barat Kabupaten Kupang. *J Pengabdi pada Masy Kepul Lahan Kering*. 2023;4(1):9-17. doi:10.51556/jpkmkelaker.v4i1.235
18. Natalia, S.L., Maulida, F., & Nisa K. Hubungan Asupan Zat Gizi Makro dengan Status Gizi Anak Usia 2-5 Tahun di Wilayah kerja Puskesmas Kuamang Kecamatan Panti Kabupaten Pasaman. *J Kesehat Tambusai*. 2023;4(3):2787-2797. doi:10.29313/bcsms.v3i1.6007

*** Author Correspondence: Aprilya Tunggo Dewi, AKBID Ar Rahma Pasuruan**
aprilya.tunggo90@gmail.com, 082233333658