

RESEARCH STUDY

English Version

OPEN ACCESS

Nutrition Knowledge, Caring Capacity, and Pregnancy Spacing to Toddler's Nutritional Status at Posyandu Lancang Kuning, Tuah Karya, Pekanbaru, Riau

Pengetahuan Gizi, Pola Asuh, serta Jarak Kehamilan terhadap Status Gizi Balita di Posyandu Lancang Kuning, Tuah Karya, Pekanbaru, Riau

Rizki Natia Wiji¹, Lisviarose Lisvirose², Rini Harianti^{3*}, Meyroza Asriyanty²¹Program Studi D3 Kebidanan, Akademi Kebidanan Salma, Siak Sri Indrapura, Indonesia²Program Studi Kebidanan Program Sarjana, Institusi Kesehatan dan Teknologi Al Insyirah, Pekanbaru, Indonesia³Program Studi Gizi, Fakultas Ilmu Kesehatan, Universitas Singaperbangsa Karawang, Karawang, Indonesia**ARTICLE INFO**

Received: 12-03-2022

Accepted: 12-03-2023

Published online: 05-09-2023

***Correspondent:**

Rini Harianti

rini.harianti@fikes.unsika.ac.id DOI:

10.20473/amnt.v7i3.2023.384-389

Available online at:<https://e-journal.unair.ac.id/AMNT>**Keywords:**

Toddler Nutrition Status, Nutrition Knowledge, Caring Capacity, Pregnancy Distance

ABSTRACT

Background: An individual's health can be described by the food and the nutrients consumed and absorbed by the body. The nutritional status of toddlers is influenced by infectious diseases, food intake, the mother's nutritional knowledge, caring capacity, and the distance between pregnancies.

Objectives: This research aimed to analyze the correlation between nutrition knowledge, caring capacity, and the distance between pregnancies and the nutritional status of toddlers.

Methods: The study used a cross-sectional design. The population was toddlers in the Lancang Kuning Posyandu, Tuah Karya, and Pekanbaru-Riau (subject 123 mothers of toddlers) through simple random sampling. The study was conducted from November 2019 - July 2020. Information was analyzed using the Chi-square test.

Results: The results showed that most of the mothers of toddlers had high school education, had poor nutrition knowledge, and more than one-third had poor care capacity, and most of the children's nutritional status was good. The analysis showed a correlation between nutrition knowledge, caring capacity, the distance between pregnancies, and the nutritional status of toddlers ($p < 0.001$; $p = 0.005$; and $p = 0.041$).

Conclusions: Nutrition knowledge, caring capacity, and distance of pregnancy can optimize the toddler's nutritional status.

INTRODUCTION

Individual quality can be assessed from the individual nutrition itself. The adequacy of nutrients can be illustrated by the good nutritional status of individuals, all of which can be seen from the growth, development, and self-ability to achieve optimal health status and nutritional status¹. Nutritional status is a condition in which a person's nutritional quality is achieved, which can be seen in his growth. Knowing the quality of nutrition, one of the best ways to monitor it is by measuring body weight and height. The quality of the development of nutritional problems is grouped into three, namely controllable, not yet resolved, and continues to increase so that it can threaten public health if it is not resolved correctly.

Childhood is a condition with rapid growth and development, so if not paid attention to, it can interfere with the health and nutrition of children². Malnutrition and malnutrition are problems that are still happening and cannot be resolved³. Cases of malnutrition (Weight for

Age Z-Score/WAZ) and undernutrition are currently 3.9% and 13.8%, respectively. Riau Province in 2018 for malnutrition and lack of 4.3% and 14.0%⁴. This incident also occurred at the Sidomulyo Health Center, a health service in Pekanbaru that received the highest number of under-fives with undernourished status, 66 and 69 people in 2017 and 2019, respectively), Sialang Munggu Village (11 toddlers) and Tuah Madani Village (7 toddlers). This picture shows that there are still high problems in the nutritional status and health of children both directly influenced by infectious diseases and food eaten, as well as indirectly which includes parenting, birth spacing, education, knowledge, and low information obtained by the public about the influence of food on health, do not believe in the benefits and content of certain types of food, often consume the same type of food repeatedly, The income obtained, environmental sanitation that is not following health standards, the low type of food consumed by the community daily and community behavior towards health services, so that this

can ultimately interfere with achieving optimal nutritional quality.

In addition, a mother's knowledge of the nutrition contained in food is a determining factor for the nutritional quality of children, especially the selection of a variety of foods^{2,3}. A mother's information and beliefs about health and nutrition will influence how she cares for her child correctly⁵. The bonding attachment shown by the mother and child affects the development and formation of the child's personality^{5,6}. A child under the supervision of parents has the right to complete physical needs, social interaction with the community, and needs for food, nutrition, safety, affection, and health⁷. The age gap at birth also dramatically affects the nutritional quality of a child. Through the family planning program, the government also asks the public, especially couples of childbearing age, to carry out the pregnancy program properly so that each parent can provide extra love and attention without exception. The excess number of children in a family significantly affects the family's quality of life. Insufficient income and many needs are a problem for parents, so the quality of food and the nutritional needs of family members are not optimally achieved. Parental stimulation is also the primary causal factor that influences the growth and development of children⁸.

Some research shows a correlation between knowledge and mother-to-child parenting. The level of the mother's knowledge will affect parenting². In addition, there is a correlation between upbringing, health, and nutritional conditions ($p=0.014$; $p=0.006$)⁹. Likewise, research on the spacing of children born more than two years causes parents to care for their children very well, which can be seen from how parents provide food and care for their children so that the nutritional quality of toddlers is also achieved optimally, in contrast to the spacing of children born less than two years to parents. They are not good at nurturing and caring for their children, so toddlers' nutritional quality is also not achieved optimally¹⁰. This study aimed to analyze the correlation of nutritional knowledge, parenting style, and pregnancy intervals on the nutritional status of toddlers at Posyandu Lancang Kuning, Tuah Karya, and Pekanbaru, Riau, Indonesia.

METHODS

This type of research is observational with a cross-sectional design. The research was conducted at the Lancang Kuning Posyandu, Tuah Karya, Pekanbaru-Riau from November 2019 - July 2020. The subjects were 123 mothers with toddlers aged 1-5 years who were obtained by simple random sampling. The selection of the sample was based on the inclusion criteria, i.e., the mother has a toddler who is domiciled at the Lancang Kuning Posyandu and is willing to be a respondent, while the exclusion criterion is the mother who was not present at the time of the study.

Data on the characteristics of the mother's educational strata were defined as the mother's last education and were obtained by filling out a questionnaire. Classification of the mother's educational level was divided into not having finished elementary school, graduating from elementary school, junior high

school, high school, and tertiary education. The mother's nutritional knowledge variable was obtained from a ten-question questionnaire. Questions about the mother's nutritional knowledge include how to feed, when to eat, balanced nutritional patterns, and knowledge about breastmilk (ASI) and complementary feeding (MP-ASI). Classification of maternal nutrition knowledge was divided into good nutritional knowledge (> 76% correct answers), sufficient nutritional knowledge (60-75% correct answers), and poor nutritional knowledge (< 60% correct answers). The parenting style variable was obtained from a questionnaire containing ten questions. Questions about parenting include feeding patterns, the variety of foods provided, and child development. Parenting pattern variable classification was divided into good parenting style (> 76% correct answers), good parenting style (60-75% correct answers), and poor parenting style (< 60% correct answers)¹¹. The gestational distance variable is the distance between the child born and the previous child. Classification of pregnancy spacing is divided into risky (if the birth spacing of the children is ≤ 2 years) and not at risk (if the spacing of the children is > 2 years)¹². All research variable data were obtained from filling out the questionnaire.

The nutritional status variable for toddlers uses the weight-for-age index (WAZ). Retrieval of body weight data was measured with Camry digital scales (accuracy 0.1) directly from the results of weighing on monthly activities at the Integrated Service Post (Posyandu). The measurement results are then entered into the WHO Anthro software to obtain a Z-score. Anthropometric Z-score values for the weight/age index (WAZ) are divided into overnutrition status (> 2 SD), good nutritional status (-2 SD to 2 SD), undernutrition status (-3 SD to < -2 SD), and poor nutritional status (< -3 SD)¹³. The validity and reliability test of the knowledge and parenting questionnaire was conducted at the Sidomulyo Health Center with inpatient care for 15 respondents. The validity test was declared valid after the value of r count $\geq r$ table (0.514), and for the reliability test using Alpha Cronbach's reliability coefficient, the results were 0.924 for the knowledge questionnaire and 0.879 for the parenting questionnaire. Data were analyzed using SPSS. Data analysis was used, namely univariate and bivariate. Bivariate data analysis aims to determine the significance of each independent variable and the dependent variable (correlation of nutritional knowledge, parenting style, and gestational age to the nutritional status of children under five). The significance of the correlation between variables is known using the Chi-square test, where $p \leq 0.05$ means significant, or $p > 0.05$ means insignificant.

RESULTS AND DISCUSSION

Nutritional knowledge, parenting style, and pregnancy spacing were correlated with the nutritional status of children under five (Table 1). Based on Table 1, the mother of toddlers Most of them has high school education strata. The subject's nutritional knowledge percentage is knowledgeable, followed by good and sufficient knowledge. The cause is that, on average, mothers with toddlers have not received information about how to feed, when to eat, balanced nutritional patterns, and knowledge about breastfeeding and

complementary feeding. Parenting style is related to what mothers have done when caring for them, such as how a mother feeds her child. More than a third of the subjects had less parenting. It can be seen from these results that the parenting style given by most mothers who have toddlers is not good. Indirectly, the nutritional quality of toddlers is influenced by the parenting style of their children. Not achieving good nutritional quality arises because parenting styles are also not suitable. Birth spacing is in the risky category. In addition, the failure to achieve the exclusive breastfeeding target promoted by the government is also due to the excessive number of

children and the children's age gap being too close. Of course, this is the cause of delays in the growth and development of children physically and mentally. Mothers are not focused on giving breast milk to their babies on demand. Besides that, mothers also do not have more time to provide food according to balanced nutritional standards for their children¹⁴. In this study, to see the nutritional quality of toddlers, the researchers measured body weight for age (WAZ) from the 2010 Ministry of Health. WAZ describes current body mass and nutritional quality. Most of the children's nutritional status is good.

Table 1. Distribution of mothers with toddlers aged 1-5 years based on subject characteristics at Posyandu Lancang Kuning, Tuah Karya, Pekanbaru, Riau

Subject Characteristics	Frequency (n)	Percentage (%)
Education		
Not completed elementary school	0	0
Graduated elementary school	0	0
Graduated from junior high school	17	13.8
Graduated from high school	75	61.0
College	31	25.2
Nutrition Knowledge		
Good	30	24.4
Enough	30	24.4
Not enough	63	51.2
Parenting		
Good	30	24.4
Enough	45	36.6
Not enough	48	39.0
Pregnancy Distance		
Risky	72	58.5
No risk	51	41.5
Nutritional status		
More	0	0
Good	102	82.9
Not enough	21	17.1
Bad	0	0

Table 2. Correlation knowledge of nutrition, parenting style, and distance between pregnancy and nutritional status of toddlers at Posyandu Lancang Kuning, Tuah Karya, Pekanbaru, Riau

Component	Nutritional status		p-value
	Good n (%)	Not enough n (%)	
Nutrition Knowledge			
Good	28 (93.3)	2 (6.7)	<0.001*
Enough	17 (56.7)	13 (43.3)	
Not enough	57 (52.2)	6 (10.8)	
Parenting			
Good	19 (63.3)	11 (36.7)	0.005*
Enough	40 (88.9)	5 (11.1)	
Not enough	43 (89.6)	5 (10.4)	
Pregnancy wine			
Risky	55 (76.4)	17 (23.6)	0.041*
No risk	47 (92.2)	4 (7.8)	

Chi-square test; *) p-value is significant if ≤ 0.05

Mothers' nutritional knowledge is essential to be able to optimize the nutritional status of their children. Without nutrition knowledge, mothers cannot do proper parenting, and children may be at risk of experiencing nutritional problems. Based on Table 2, the analysis results show a significant correlation between the nutritional knowledge of mothers and the nutritional status of toddlers. Of as many as 30 subjects, only two mothers of toddlers had good knowledge and poor nutritional status. Thirteen mothers of toddlers have sufficient knowledge and poor nutritional status. This finding illustrates that mothers with good nutritional knowledge have toddlers with good nutritional status. It is assumed that good nutritional status in toddlers is closely related to the mother's knowledge about nutrition and the mother's creativity in combining food menus and the benefits of each food according to their needs. A mother's knowledge about nutrition and its function in a child's growth and development means that the mother will always provide the best quality food¹⁵. Other studies reported the same thing: a correlation between a mother's nutritional knowledge and a toddler's nutritional status ($p < 0.001$). The level of the mother's knowledge is the key to managing the household, which will affect the mother's attitude in choosing food ingredients that the family will consume. Mothers with good nutritional knowledge will understand the importance of good nutritional status for health and well-being¹⁶. Mother has an essential role in the nutritional status of all family members. The bonding attachment that exists in the mother for the first time makes the baby have a tighter attachment. Mothers with a good level of knowledge will produce children with good nutritional status because their understanding and knowledge are applied in providing nutritious food for their toddlers. Mothers' knowledge about the concept of balanced nutrition that must be given to family members, especially their children, is essential as a determinant of nutritional quality. Mothers who know the types of nutritious food, sound processing, and proper food security will undoubtedly apply the knowledge they have in their daily activities¹⁷.

Based on this study, eleven mothers of toddlers have been good at parenting with poor nutritional status. The results of the analysis show that there is a significant correlation between parenting style and the nutritional status of toddlers. It is assumed that the good nutritional status given to children includes the role of parents in providing parenting. Therefore, mothers must know how to feed, such as giving exclusive breastfeeding to their babies and providing additional MP-ASI. In providing MP-ASI, mothers must pay close attention when processing food by cooking their food rather than buying it so that they can determine a varied and balanced menu. Supervision by the mother is essential for providing food to children, although sometimes some households with the parenting style are assisted by family or caregivers. Children need good parenting and nutrition, which cannot be separated from parents' knowledge about nutrition and its fulfillment¹⁸. This study's results align with other studies that state a relationship between parenting style and children's nutritional status ($p = 0.001$)¹⁹. The same study also found a significant

relationship between parenting style and the nutritional status of toddlers ($p = 0.001$). Good feeding is significant for the intake of nutrients, the nutritional status of children, and the mother's attitude, which also plays a role in the mother watching the child eat. As children age, the variety of food must be nutritious and balanced, so it is vital to support children's growth and development²⁰.

Mothers have a range of pregnancies in the at-risk category with good nutritional status and those not at risk with poor nutritional status. The analysis results show a significant correlation between the spacing of pregnancies and the nutritional status of children under five. The same study reported a relationship between pregnancy spacing and children's nutritional status ($p = 0.031$)¹⁴. It is assumed that mothers with birth spacing are at risk but have good nutrition due to the parenting style of toddlers assisted by their families or caregivers. If you want parenting to be carried out by the family or caregivers, the mother must continue to supervise so that child feeding can be optimized and the child's nutritional needs are met. In addition, the family's food availability is also influenced by the family's economic level. Eating habits are related to socio-culture in the family, namely the habits of parents who prepare family food at home so that nutritional intake can be fulfilled.

Good parenting patterns can also be realized by giving a time gap between the birth of the last child and the pregnancy and birth of the current child. Mothers who give birth to children over a distance of more than two years will recover physically and psychologically, so they mother will be more focused and painstaking in caring for their child²¹. The beliefs and traditions that develop in society regarding birth spacing vary. This finding is influenced by the role of husband and family, myths that exist in society about many children, and lots of fortune, so that it becomes an indirect factor in the closeness of a mother's pregnancy, the role of health workers who have not reached all community groups, limited knowledge about the adverse effects of pregnancy with distance: proximity, mother's age, mother's daily activities, and mother's experiences at previous births. When a woman gets her first period after giving birth, her fertility returns to normal. The woman must use contraception according to her needs and circumstances so that pregnancy does not occur quickly. If she wants to get pregnant again, then a woman must stop using contraception so that her fertility can return to normal²². WHO said breastfeeding for children is one of the countermeasures for malnutrition and stunting in infants and toddlers. Giving breast milk regularly will affect the mother's fertility so that it can prevent pregnancies and births at close range. Mothers are also more able to focus and be serious in caring for their children to achieve their growth and development optimally. The distance between the first birth and subsequent births also contributes to the formation of quality of life because the spacing of births that are not too close can also help parents meet all their children's needs¹⁰.

The strength of this research was that researchers know the extent of knowledge possessed by mothers who have toddlers about nutrition, types of balanced food, and how to provide and process food that

should be given to toddlers. In addition, researchers also know what parenting methods can affect toddler nutrition in general. The weakness of this study was that some mothers with toddlers sometimes lack focus in filling out the questionnaire because their children are fussy.

CONCLUSIONS

Mothers' nutritional knowledge correlates with toddlers' nutritional status. Likewise, with parenting style, the distance between pregnancies is related to the nutritional status of toddlers at the Lancang Kuning Posyandu, Tuah Karya, and Pekanbaru-Riau. Deep mother knowledge Providing healthy, nutritious, and balanced meals is significant for children's nutritional status and the mother's parenting in monitoring diet. Good parenting patterns can also be realized by spacing the pregnancies.

ACKNOWLEDGEMENTS

The author thanks the head of the Sidomulyo Health Center, Pekanbaru-Riau.

Conflict of Interest and Funding Disclosure

The authors involved in this article have no conflict of interest in it. This study was self-funded.

REFERENCES

1. Apriliana WF, Rakhma LR. Faktor-Faktor yang Berhubungan dengan Status Gizi Balita yang Mengikuti TFC di Kabupaten Sukoharjo. *Profesi (Profesional Islam Media Publ Penelit.* **15**, 1, (2017).
2. Subekti S, Yulia C. Gizi Kurang di Kelurahan Pasteur Kecamatan. *INVOTEC.* **3**, 1 (2012).
3. Nainggolan J, Zuraida R. Hubungan Antara Pengetahuan dan Sikap Gizi Ibu dengan Status Gizi Balita di Wilayah Kerja Puskesmas Rajabasa Indah Kelurahan Rajabasa Raya Bandar Lampung. *Med J Lampung Univ.* **1**, 1 (2012).
4. Ministry of Health of Indonesia. Hasil Riset Kesehatan Dasar Tahun 2018. Kementerian Kesehatan RI. Jakarta; 2018.
5. UNICEF. The State of The World's Children 1994. United States: Oxford University Press; 1994.
6. Hastasari C, Anggitya PT, Musslifah AR. Pola Asuh Balita Ibu-Ibu Kelompok Sasaran pada Program Kegiatan Bina Keluarga Balita Usia 0–12 Bulan Dusun Gandekan Kartasura. *Inf Kaji Ilmu Komun.* **45**, 1 (2015).
7. Ronald. Pedoman dan Perawatan Balita agar Tumbuh Sehat dan Cerdas. Bandung: CV.Nuansa Aulia; 2011.
8. Harianti R, Amin S. Pola Asuh Orangtua dan Lingkungan Pembelajaran Terhadap Motivasi Belajar Siswa. *Curricula.* **1**, 2 (2016).
9. Pratiwi TD, Masrul, Yerizel E. Hubungan Pola Asuh Ibu dengan Status Gizi Balita di Wilayah Kerja Puskesmas Belimbing Kota Padang. *J Kesehat Andalas.* **5**, 3 (2016).
10. Ginting TM, Aritonang EY, Siregar A. Hubungan Jarak Kelahiran dan Pola Pengasuhan dengan Status Gizi Anak Balita di Wilayah Kerja Puskesmas Kecamatan Tanjung Tiram Kabupaten Batu Bara Tahun 2013. **1-8**, (2013).
11. Arikunto S. *Prosedur Penelitian Suatu Pendekatan Praktik.* Jakarta: Rineka Cipta; 2010.
12. Ministry of Health of Indonesia. Peraturan Menteri Kesehatan Republik Indonesia Nomor 97 Tahun 2014 Tentang Pelayanan Kesehatan Masa Sebelum Hamil, Masa Hamil, Persalinan, dan Masa Sesudah melahirkan, penyelenggaraan Pelayanan Kontrasepsi, Serta Pelayanan Kesehatan Seksual. Jakarta: Kementerian Kesehatan Republik Indonesia; 2014. 1–119 p.
13. Ministry of Health of Indonesia. Keputusan Menteri Kesehatan Republik Indonesia Nomor : 1995/MENKES/SK/XII/2010 Tentang Standar Antropometri Penilaian Status Gizi Anak. Kementerian Kesehatan RI, Direktorat Jenderal Bina Gizi dan kesehatan Ibu dan Anak DBG, editor. Jakarta; 2011.
14. Mulkiyah. Hubungan Jarak Kelahiran dengan Status Gizi Balita di Kelurahan Sumberagung Kecamatan Moyudan Sleman Yogyakarta [Internet]. Program Studi Ilmu Keperawatan Sekolah Tinggi Ilmu Kesehatan 'Aisyiyah Yogyakarta. Sekolah Tinggi Ilmu Kesehatan 'Aisyiyah; 2010. Available from: <http://digilib.unisayogya.ac.id/id/eprint/1770>
15. Amirah AN, Rifqi MA. Karakteristik, Pengetahuan Gizi Ibu dan Status Gizi Balita (BB/TB) Usia 6-59 bulan. *Amerta Nutr.* **3**, 3 (2019).
16. Yuneta AEN, Hardiningsih, Yunita FA. Hubungan Antara Tingkat Pengetahuan Ibu Dengan Status Gizi Balita Di Kelurahan Wonorejo Kabupaten Karanganyar. *PLACENTUM J Ilm Kesehat dan Apl.* **7**, 1 (2019).
17. Supariasa. *Penilaian Status Gizi.* Jakarta: EGC; 2012.
18. Aji DSK, Wati EK, Rahardjo S. Analisis Faktor-Faktor yang Berpengaruh terhadap Pola Asuh Ibu Balita di Kabupaten Banyumas. *J Kesmas Indones.* **8**, 1 (2016).
19. Rapar V, Rompas S, Ismanto A. Hubungan Pola Asuh Ibu dengan Status Gizi Balita di Wilayah Kerja Puskesmas Ranotana Weru Kecamatan Wanea Kota Manado. *J Keperawatan UNSRAT.* **2**, 2 (2014).
20. Diyah HS, Sari DL, Nikmah AN. Hubungan antara Pola Asuh dengan Status Gizi pada Balita. *J Mhs Kesehat.* **1**, 2 (2020).
21. Karundeng L, Ismanto AY, Kundre R. Hubungan Jarak Kelahiran dan Jumlah Anak dengan Status

Gizi Balita di Puskesmas Kao Kecamatan Kao Kabupaten Halmahera Utara. e-Jurnal Keperawatan. **3**, 1 (2015).

22. Monita F, Suhaimi D, Ernalina Y. Hubungan Usia,

Jarak Kelahiran, dan Kadar Hemoglobin Ibu Hamil dengan Kejadian Berat Bayi Lahir Rendah di RSUD Arifin Achmad Provinsi Riau. *Jom FK*. **3**, 1 (2016).