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Relationship between Mother's Knowledge about Nutrition and Nutritional Status of Toddlers in Karedok Village, Sumedang Regency, West Java

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Nutritional problems in toddlers are still a challenge in various countries, including Indonesia. Problems such as malnutrition, poor nutrition, and obesity can have an impact on the quality of life of children in the future. The purpose of this study was to determine the relationship between maternal knowledge about nutrition and the nutritional status of toddlers. The type of research is descriptive analytical with a cross-sectional approach. The population in this study was mothers

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who have toddlers aged 0-5 years who came to the Nusa Indah Posyandu, Karedok Village, Sumedang, West Java, with a sample of 49 people. This study was conducted on January 15-23, 2025. The sampling technique used was total sampling. This study was analyzed univariately using a frequency distribution table and bivariately using the Chi-Square statistical test. The results of this study showed a relationship between maternal knowledge about nutrition and the nutritional status of toddlers in Karedok Village, Sumedang, West Java, with a P-value (0.003) <0.05. The conclusion is that there is a relationship between maternal knowledge about nutrition and the nutritional status of toddlers in Karedok Village, Sumedang, West Java in January 2025.

Keywords: Toddlers; mother's knowledge of nutrition; nutritional status.

1. INTRODUCTION

Quality human resources are described as healthy, intelligent, and productive people, so that indicators of quality human resources can be determined from the growth and development of Indonesian children. Growth and development are influenced by the intake of nutrients, both in quantity and quality. Nutritional intake in children is very important to pay attention to because children are a group that is vulnerable to nutritional problems. Nutrients must be consumed properly and according to needs so that they can function in the body. The function of nutrients from food consumed is a source of energy, as a building substance, and the maintenance of cells and body tissues. Fulfillment of nutrients plays an important role for children because adequate nutrients can support the achievement of children's potential in the form of growth, development, and health. Food intake containing energy and nutrients, if consumed properly and according to needs, will achieve good nutritional status. Excess intake can cause overnutrition, and a lack of food intake causes malnutrition, which has an impact on the body that looks thin and is at risk of disease (Sari, 2017).

Nutritional status is a picture of a person's body as a result of food consumption and the use of nutrients from food consumed in the body (Ministry of Health of the Republic of Indonesia, 2023a). Good nutrition in toddlers plays a very important role in the growth and development of children, both in terms of physical, cognitive, and emotional. However, nutritional problems in toddlers are still a challenge in various countries, including Indonesia. Problems such as malnutrition, poor nutrition, and obesity can have an impact on the quality of life of children in the future. Based on data from the 2023 Indonesian Health Survey (SKI) released by the Ministry of Health of the Republic of Indonesia, the prevalence of wasting (acute malnutrition) showed an increase from 7.7% in 2022 to 8.5% in 2023. In addition, the prevalence of underweight (underweight) in toddlers nationally decreased to 15.9%, while the overweight (overweight) rate increased from 3.5% in 2022 to 4.2% in 2023 (Ministry of Health of the Republic of Indonesia, 2023b). Based on data from the 2022 Indonesian Nutrition Status Study (SSGI) in 33 provinces, the prevalence of overweight toddlers decreased from 3.8% in 2021 to 3.5% in 2022. Meanwhile, the prevalence of wasting showed an increase from 7.1% in 2021 to 7.7% in 2022. The prevalence of underweight also increased from 17.0% in 2021 to 17.1% in 2022 (Andayani & Afnuhazi, 2022).

The nutritional status of toddlers is generally influenced by 2 factors, namely direct factors and indirect factors. Direct factors consist of food intake, infectious diseases, and indirect factors consist of knowledge, socioeconomic status, and the role of health workers (Akib & Zahrrudin, 2016) The level of maternal knowledge about nutrition influences attitudes and behavior in providing nutritional intake to families, especially children, either through providing the right food or understanding of healthy eating patterns (Anjani, 2024). Low nutritional knowledge can affect parenting and child care patterns, thus influencing the selection and presentation of food consumed by children. Providing food that does not meet nutritional standards can hurt children's nutritional status and threaten their health. 6 Mothers with sufficient knowledge about nutrition will pay attention to their children's nutritional needs so that they can grow and develop optimally (Radiastu & Tombora, 2024).

Based on this, the author is interested in researching the relationship between maternal knowledge about nutrition and the nutritional status of toddlers in Karedok Village because there has been no research conducted on this topic in Karedok Village. Then the high number of stunting cases in West Java also increases the

risk of other nutritional problems, such as malnutrition and overnutrition. It is hoped that the results of this study can provide an overview of the importance of increasing maternal knowledge about child nutrition to improve the nutritional status of toddlers so that they can grow according to their age.

2. MATERIALS AND METHODS

2.1 Research Design

The method in this study is an analytical method with a cross-sectional approach. Cross-sectional is a study with measurements of independent variables (risk factors) and dependent variables (effects) carried out once and at the same time. The independent variable in this study is maternal knowledge of nutrition, and the dependent variable in this study is the nutritional status of toddlers in Karedok Village, Sumedang, West Java

2.2 Place and Time of Research

The research location was carried out at the Nusa Indah Health Post, Karedok Village, Sumedang, West Java, in January 2025.

2.3 Research Population and Sample

The population in this study consisted of mothers who had toddlers and came to the Nusa Indah Posyandu, Karedok village, Sumedang, West Java. A sample of 49 people was taken using the total sampling technique and met the inclusion and exclusion criteria.

2.4 Research Instruments

2.4.1 Nutritional status

Assessment for nutritional status is obtained from anthropometric measurements, consisting of body length or height, along with body weight.

2.4.2 Mother's knowledge of child nutrition

The instrument used is a questionnaire containing 18 questions about maternal nutritional knowledge, and respondents provide answers according to the questionnaire provided. This questionnaire was obtained from the research instrument, namely Fita's research (2022).

2.5 Data Analysis

Data collection, if complete, will then be analyzed through two stages of analysis:

1. Univariate analysis

Univariate analysis is an analysis carried out when the number of variables is only one. This analysis is used to explain the distribution of frequency and percentage of each variable6. Univariate analysis in this study consists of the distribution and frequency of gender, age, last education, nutritional status of toddlers, and maternal knowledge of nutrition.

2. Bivariate analysis

Bivariate analysis aims to analyze the relationship between independent variables and dependent variables (Akbar, 2020). in this study is to determine the relationship between maternal knowledge of child nutrition and nutritional status of toddlers in Karedok village, Sumedang, West Java.

3. RESULTS AND DISCUSSION

The data in table 1 shows data on mothers based on age, last education, where the data shows that the mother's age is dominated by the range of 21-30 years, namely 32 out of 49 people (65.3%) and the range of 31-44 years as many as 17 out of 49 people (34.7%). While for the last education is dominated by junior high school, namely 29 out of 49 people (59.2%), and followed by high school and equivalent, as many as 15 out of 49 people (30.6%).

Table 2 is a description of maternal knowledge about nutrition and also data on the nutritional status of toddlers in Karedok village, West Java. As many as 30 mothers out of 49 people (61.2%) have good nutrition knowledge, while 19 others (38.8%) have poor knowledge about nutrition. Furthermore, data on the nutritional status of toddlers shows that 39 babies (79.6%) have good nutritional status and 10 babies (20.4%) have poor nutritional status.

Table 3 shows the Relationship between mothers ' knowledge of Toddler Nutrition. The results of the analysis using the chi-square test, where the P value was obtained as 0.003. The results of the P value (0.003)<0.05, so there is a significant relationship between maternal knowledge of nutrition and the nutritional status of toddlers in Karedok Village, Sumedang, West Java. From the Odds Ratio analysis, there is a positive relationship between maternal knowledge of nutrition and the nutritional status of toddlers because the value is 10.182. This shows that someone with a good level of knowledge about child nutrition has a 10 times greater chance of having a child with good nutrition.

Table 1. Characteristics of Participants Based on Mother's Age and Last Education

Characteristic	Frequency (n)	Percentage (%)
Age		
21-30 **years**	32	65.3
31-44 **years**	17	34.7
Education		
Elementary School	1	2.0
Junior High School/equivalent	29	59.2
Senior High School/equivalent	15	30.6
Bachelor's Degree/equivalent	4	8.2

Table 2. Description of Maternal Knowledge about Nutrition and Toddler Nutritional Status Data

Data Description	Frequency (n)	Percentage (%)
Maternal Knowledge about Nutrition		
Good	30	61.2
Not Good	19	38.8
Toddler Nutritional Status Data		
Good Nutrition	39	79.6
Bad Nutrition	10	20.4

Table 3. Relationship between Mother's Knowledge and Toddler Nutrition

Mother's Knowledge About Nutrition	Nutritional Status		P-Value	Odds Ratio
	Good Nutrition	Bad Nutrition		
Good	28	2	0.003	10.181
Not Good	11	8		
Total	**39**	**10**		

3.1 Discussion

3.1.1 Description of nutritional status

Based on the results of the study, the results for the nutritional status of toddlers in Karedok Village, Sumedang, West Java was good nutrition for 30 people (61.2%) and malnutrition for 19 people (38.8%). Nutritional status is the amount of nutritional intake that meets the body's needs for the necessary nutrition, and factors that directly influence changes in nutritional status are eating patterns in children and infectious diseases (Sari, 2017). Nutritional problems can arise due to a lack of certain nutrients or due to the inaccuracy of the composition of the food consumed. Insufficient food intake or excessive consumption can ultimately cause nutritional imbalance. In addition, toddlers who lack food can experience decreased immunity and are more susceptible to infection, which can cause malnutrition (Ministry of Health of the Republic of Indonesia, 2023a).

In addition to direct factors, there are indirect factors that can affect the nutritional status of toddlers, namely parental education, type of work, parental income, maternal knowledge about food availability and food consumption patterns (Ministry of Health of the Republic of Indonesia, 2023b; Millward, 2017). These factors indicate the importance of attention in providing food to children, because behavioral patterns and attitudes formed in the habit of providing food can affect the nutritional intake received by children (Andayani & Afnuhazi, 2022). Nutritional status will be good if the body gets good nutritional intake, thus supporting optimal physical growth and health.

3.1.2 Overview of mother's knowledge about nutrition

Based on the results of the study, the results obtained were that the level of knowledge of mothers about nutrition was in the good category of 30 people (61.2%), and the knowledge of mothers about nutrition was in the poor category of 19 people (38.8%). One of the factors that can affect nutritional status is the level of knowledge of mothers. A person's level of knowledge can be influenced by various factors, including age, level of education, type of work, experience, and sources of information (Laila, 2022; Basri et al.,

2021). Age can affect a person's level of knowledge because the older they are, the more experience and knowledge a person gains, so it can affect the level of ability and maturity in thinking and receiving information so that it better (Puspitasari & Herdiani, 2021; Dewey et al., 2020).

Parental education is one of the important factors, because with good education, parents will more easily receive information about the right way to raise children, especially about feeding, health care, education, and so on (Martias et al., 2024). The type of work is also a factor that can affect the level of knowledge and is related to the economy of a family. Good family economic welfare will make it easier to fulfill the basic needs of each family member, including nutritional needs (Akbar, 2020; Kusuma Sari et al., 2023)

3.1.3 Relationship of mother's knowledge about nutrition to toddler nutritional status

Based on the results of the study above, there is a significant relationship between mothers' knowledge about nutrition to the nutritional status of toddlers in Karedok Village, Sumedang, West Java, with a P Value = 0.003. From the results of the data, it was obtained that mothers' knowledge about nutrition was a good category of 30 people, with good toddler nutritional status of 28 people, and poor nutrition of 2 people. Mother's knowledge about nutrition is in the bad category, with good nutritional status of 11 people and poor nutrition of 8 people.

The results of this study are in line with research conducted by Wayan (2024) that there is a significant relationship between maternal knowledge about nutrition and the nutritional status of toddlers, with the results of statistical tests using chi-square obtained a P-value of 0.015. (Radiastu & Tombora, 2024) Another study conducted by Andayani (2022) found that out of 62 mothers with high knowledge, 47 people (75.8%) had toddlers with good nutritional status, while out of 31 mothers with low knowledge, 8 people (25.8%) had toddlers with good nutritional status (Andayani & Afnuhazi, 2022). Based on the statistical test, a p value of 0.000 was obtained (p value <0.05). there is a relationship between the level of knowledge and nutritional status of toddlers in Bandar Buat Village, Lubuk Kilangan Padang Health Center Work Area. Based on this, the higher the mother's knowledge and understanding of nutrition, the better the child's nutritional status. (Par'i et al., 2017; Ministry of Health of the Republic of Indonesia, 2020; Baga, n.d.).

Mother's knowledge of adequate nutrition will affect the child's nutritional status better when compared to the nutritional status of toddlers with poor maternal knowledge of nutrition. This is because mothers who have adequate nutritional knowledge will have more information related to fulfilling toddlers' nutritional needs properly and will affect the process of making and processing food at home, starting from its distribution to each family member, especially for children, when compared to poor nutritional knowledge (Kusumaningrum et al., 2022; Vidyarini & Ayunin, 2022; Dominguez-Salas et al., 2024).

4. CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that there is a significant relationship between maternal knowledge of nutrition and the nutritional status of toddlers. Mothers who have good nutritional knowledge tend to have toddlers with normal nutritional status, while mothers with poor nutritional knowledge tend to have toddlers with poor or poor nutritional status. This shows that maternal knowledge plays an important role in determining parenting patterns and food intake given to toddlers. Therefore, increasing nutritional education and counseling for mothers, especially during pregnancy and postpartum, is a strategic step to prevent nutritional problems in early childhood. Deafness.

CONCENT AND ETHICAL APPROVAL

It is not applicable.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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