Miracle Internasional Journal of Public Health
https://jurnal.htp.ac.id/index.php/miracle

Analysis Of Factors Related to Malnutrition Status Among Children Under The Age of Five in the Binanga Health Center's Service Area in Mamuju District

Ikhsan Ibrahim[1]*, Yuliana[2], Musdalifah[3], Bayu Saputra [4]

[1] Philippine Women's University,
[2,3] Institute of Health and Business Siti Fatimah Mamuju
[4] Universitas Hang Tuah Pekanbaru

ABSTRACT

Toddlers represent a demographic particularly susceptible to nutritional deficiencies, including malnutrition. Various internal and external factors influence the nutritional well-being of toddlers. This research endeavors to examine the determinants associated with undernutrition among toddlers within the Binanga Health Center's jurisdiction in Mamuju Regency. Employing an analytical observational method with a cross-sectional design, the study involved 30 malnourished toddlers as its sample, selected through purposive sampling, also known as judgmental or selective sampling. Anthropometric measurements were conducted to calculate z-scores, alongside the administration of questionnaires. Findings indicated a significant lack of knowledge regarding nutritional care for toddlers among the majority of subjects, accounting for 54% of cases. Spearman's rank correlation analysis revealed a significant association between maternal nutritional knowledge and toddler malnutrition (p=0.001). Moreover, socioeconomic factors elucidated that 70% of malnourished toddlers originated from impoverished households, with a correlated relationship between family economic status and toddler malnutrition (p=0.003). Furthermore, the educational aspect revealed that 73% of subjects had limited educational attainment, showing a significant correlation between maternal education and toddler malnutrition (p=0.003). Additionally, a notable 63% of malnourished toddlers had a history of low birth weight (LBW), indicating a significant relationship between LBW history and toddler nutritional status (p=0.006) based on Spearman's rank correlation analysis.

Keywords ***: Toddlers, Malnutrition, Education, Knowledge, Economic Status.***

coresponding author: : ikhsanibrahim1@gmail.com

Published Mei 2024

INTRODUCTION

Currently, children under the age of five, regarded as the future generation of the nation, necessitate special attention. This age bracket is considered the "golden age" for human resource development, encompassing both physical growth and cognitive development, which greatly rely on adequate nutritional status. Nutritional status plays a pivotal role in determining the success or failure of initiatives aimed at enhancing human resources.

As per the World Health Organization's 2021 data, 149 million children under five globally suffer from malnutrition, with 6.3 million of them residing in Indonesia. According to the 2018 Riskesdas survey, Indonesia's prevalence of childhood malnutrition stands at 3.9%. This indicates that out of every 100 children under five in Indonesia, approximately 4 are malnourished. The breakdown by region shows that Sumatra Island has a prevalence of 3.4%, Java Island 3.3%, Kalimantan Island 5.1%, Sulawesi Island 4.4%, Maluku Island 6.3%, and Papua 6.4%.

Data from the Indonesian Nutrition Status Survey (SSGI) in 2021 reveals that West Sulawesi has a malnutrition prevalence of 2.7%, surpassing the national average of 2.4%.

The nutritional status within communities is influenced by a myriad of factors, among which socioeconomic conditions stand out as significant determinants. Favorable socioeconomic circumstances typically correlate with improved nutritional status. Particularly, the nutritional well-being of children under the age of five is intricately linked with the socioeconomic status of their families, including factors such as parental education, employment status, family size, maternal knowledge, parenting practices, and overall economic stability. Moreover, the occurrence of low birth weight (LBW) also contributes to the incidence of malnutrition. LBW infants often face complications due to immature organ development, leading to disruptions in physical growth and nutritional imbalances during early childhood. The level of maternal education is closely associated with maternal understanding of nutrition, consequently impacting parenting practices concerning toddlers.

Child malnutrition poses a grave health concern with significant immediate and long-term repercussions. These consequences extend beyond physical health, affecting a child's mental, cognitive, and social development. Short-term effects encompass stunting (height below age-appropriate levels), wasting (weight below height-appropriate levels), and underweight conditions, rendering children susceptible to illnesses due to weakened immune systems. Malnourished children are particularly vulnerable to infectious diseases like diarrhea, pneumonia, and measles. Furthermore, malnutrition may lead to irreversible brain damage, impairing learning abilities and memory, while also predisposing malnourished children to emotional issues such as depression, anxiety, and aggression.

Long-term implications of child malnutrition include educational challenges and diminished prospects for future employment and income. Additionally, malnourished children face heightened risks of developing chronic ailments like diabetes, heart disease, and stroke later in life, with malnutrition posing a significant risk of mortality among children, especially those under the age of five.

To mitigate potential deterioration caused by malnutrition, the Mamuju District Health Office, in collaboration with various health universities within the district, has implemented initiatives aimed at enhancing malnutrition services for children under the age of five. These efforts include staged provision of food to identified malnourished children, along with activities such as screening and monitoring of malnutrition cases, conducting anthropometric and clinical assessments, offering nutritional counseling, and supplying additional nutritional support.

Against this backdrop, the researcher seeks to undertake a study titled "Analysis of Factors Associated With Malnutrition Status Among Under-Fives In The Binanga Health Center Working Area, Mamuju District."

METHODS

This research adopted an analytical observational approach employing a cross-sectional design. The study comprised a sample of 30 malnourished toddlers selected through purposive sampling. Purposive sampling, also referred to as judgmental, selective, or subjective sampling, is a non-probability technique used in research where researchers intentionally choose individuals or units from a population based on predetermined criteria.

RESULT

Relationship between mothers' knowledge of nutrition

Table 1. Overview of mother's knowledge about nutrition

Knowledge Category	n	%
Less	16	54
Enough	9	30
Good	5	16
Total	30	100

Based on table 1, it is known that most subjects have insufficient knowledge about nutritional care for toddlers with a percentage of 54%. Correlation analysis using rank spearman showed the results that there was a relationship between maternal nutritional knowledge and malnutrition of toddlers with a value of p=0.001

Relationship between family economic status and malnutrition

Table 2. Overview of family economic status of malnourished toddlers

Economic Status	n	%
Low Income	21	70
Medium Income	7	23
High Income	2	7
Total	30	100

Based on table 2, it is known that 70% of malnourished toddlers in the binanga health center work area come from poor families. Correlation analysis using rank spearman shows the results that there is a relationship between family economic status and malnutrition status of toddlers with a value of p=0.003.

Relationship between education and malnutrition status

Table 3 Relationship between education and malnutrition

Education	n	%
High	8	27
Low	22	73
Total	30	100

Based on table 3, it is known that most subjects have low education with a percentage of 73%. Correlation analysis using Spearman rank shows the results that there is a relationship between maternal education and malnutrition status of toddlers with a value of p=0.003.

Relationship between LBW history and under-five nutritional status

Table 4. Overview of LBW History of malnourished toddlers

Birth Weight	n	%
<2400 gram	19	63
<2400 gram	11	37
Total	30	100

Table 4 shows that 63% of malnourished toddlers have a history of LBW. Correlation analysis using Spearman rank shows the results that there is a relationship between the history of LBW with the nutritional status of toddlers with a value of p=0.006

DISCUSSION

The correlation between maternal nutrition knowledge and toddler malnutrition is evident, as the majority of subjects exhibit insufficient knowledge regarding nutritional care for toddlers, comprising 54% of cases. Analysis using Spearman's rank correlation coefficient reveals a significant relationship between maternal nutritional knowledge and toddler malnutrition (p=0.001).

This finding aligns with research conducted by Mustar (2022), which explores the relationship between maternal nutrition knowledge and the nutritional status of toddlers within the Watampone Health Center Working Area. The chi-square test results from Mustar's study indicate a significant relationship between maternal nutrition knowledge and toddler nutritional status (p-value = 0.001, $p < 0.05$). Maternal understanding of malnutrition proves essential in preventing its occurrence in children. Mothers equipped with adequate knowledge about malnutrition are better positioned to provide nutritious meals and maintain their children's health (Black & Hwaks, 2014).

The association between family economic status and toddler malnutrition is notable, with 70% of malnourished toddlers in the Binanga Health Center's working area originating from economically disadvantaged families. Spearman's rank correlation analysis reveals a significant relationship between family economic status and toddler malnutrition status (p=0.003).

The association between family economic status and malnutrition is evident, as evidenced by the fact that 70% of malnourished toddlers in the Binanga Health Center's working area belong to economically disadvantaged families. Spearman rank correlation analysis reveals a significant relationship between family economic status and toddler malnutrition status (p=0.003).

This finding is consistent with the research conducted by Beatric Maria, where statistical tests using the Spearman rank correlation demonstrate a moderate relationship between family economic status and toddler nutritional status (p = 0.000). Maria's study further indicates that nearly all (89.5%) of the mothers surveyed had toddlers with good nutritional status, and these families belonged to a higher economic stratum. This notion is supported by Adiningsih (2010), who suggests that families with higher economic status tend to prioritize the consumption of nutritionally rich foods compared to those with lower economic status.

A higher economic status within a family enables them to allocate a significant portion of their income towards accessing nutritious food and fulfilling the nutritional requirements of their family members. Conversely, families with moderate economic status may face limitations in accessing adequate food and meeting their family's nutritional needs (Adiningsih, 2010).

Therefore, it is essential for parents, regardless of their economic status, to ensure that their children have access to nutritious food. Nutritious food does not necessarily have to be expensive; it can also be obtained from affordable ingredients that provide adequate nutrition.

The relationship between education and malnutrition status. The results showed that most subjects had a low education with a percentage of 73%. Correlation analysis using Spearman rank shows the results that there is a relationship between mother's education and the malnutrition status of toddlers with a value of p=0.003.

A person who has only finished primary school is not necessarily incapable of preparing a proper diet. If the person is diligent in listening to rural broadcasts or always participates in nutrition counseling, it is possible that his or her nutritional knowledge will be better. However, the level of education also determines whether or not a person can easily receive advice or nutrition messages, so in providing counseling it is necessary to consider choosing the right counseling method.

The relationship between LBW history and nutritional status of toddlers. It can be seen that malnourished toddlers who have a history of LBW are 63%. Correlation analysis using Spearman rank shows the results that there is a relationship between the history of LBW with the nutritional status of toddlers with a value of p = 0.006.

This is also in line with research conducted by Uki Nengsih (2016) entitled The Relationship of Birth History of Low Birth Weight with Growth of Children in Toddler Age. The statistical test results obtained P value = 0.016 <0.05 with OR = 5.909 and CI = 95% CI: 1.546 to 22.580. In conclusion, there is a relationship between the history of low birth weight and the growth of children under five years of age in the working area of the Puskesmas.

Toddlers with a history of Low Birth Weight are more at risk of malnutrition due to several factors, including: 1). Limited Nutrient Reserves: LBW babies have fewer nutritional reserves compared to babies born with normal weight. 2). Immature Digestive System: LBW babies have an immature digestive system, so the absorption of nutrients from food is not optimal. 3). Prone to Infection: LBW babies are more susceptible to infections, which can interfere with their growth and development.

If during pregnancy the mother does not get adequate nutritional intake, then malnutrition during pregnancy will have adverse effects on the fetus such as the occurrence, abortion, prematurity, stillbirth, low birth weight, decreased child intelligence, child growth disorders and others. This is in accordance with the opinion of Umboh, Adrian (2013) which states that the fetal-maternal environment affects the development of the fetus. Impaired nutritional intake in the fetus during pregnancy in mothers who are under nutrition can cause babies to be born with low birth weight.

CONCLUSIONS

There is a significant relationship between mothers' knowledge about nutrition and children's nutritional status. Therefore, efforts should be made to increase mothers' knowledge about nutrition to prevent child malnutrition.

There is a significant relationship between family economic status and malnutrition. Families with low economic status are more at risk of having malnourished children compared to families with high economic status.

There is a significant relationship between education level and malnutrition status. Mothers with higher education levels have children with a lower risk of malnutrition compared to mothers with lower education levels.

There is a significant relationship between the history of LBW (Low Birth Weight) and the nutritional status of toddlers. Toddlers with a history of LBW are more at risk of malnutrition compared to toddlers who do not have a history of LBW

REFERENCES

1. Adiningsih S. 2010. Waspadai Gii BalitaAnda. PT.Flex Media.Jakarta.
2. Badan Kebijakan Pembangunan Kesehatan. Buku Saku Hasil Studi Status Gizi Indonesia (SSGI) Tahun 2021. Jakarta: Kementrian Kesehatan Republik.
3. Black, J dan Hawks, J. 2014. Keperawatan Medikal Bedah: Manajemen Klinis untuk Hasil yang Diharapkan. Dialihbahasakan oleh Nampira R. Jakarta: Salemba Emban Patria.
4. Mustar, 2022. Hubungan Pengetahuan Ibu Tentang Gizi Dengan Status Gizi Balita Di Wilayah Kerja Puskesmas Watampone, Jurnal Suara Kesehatan, Vol 8, No. 1, Februari 2022.
5. Riset Kesehatan Dasar (Riskesdas) (2018). Badan Penelitian dan Pengembangan Kesehatan Kementerian RI tahun

2018.
6. Indonsia; 2021. Available from: https://www.badankebijakan.kemkes.go.id/.
7. buku-saku-hasil-studi-status-gizi-indonesia-ssgi-tahun-2021/
8. Uki Nengsih, Noviyanti dan Dedi S. Djamhuri, 2016. Hubungan Riwayat Kelahiran Berat Bayi Lahir Rendah Dengan Pertumbuhan Anak Usia Balita. *Midwife Journal*, volume 2, No. 2, Juli 2016.
9. UNICEF, WHO, World Bank Group. Level and Trends in Child Malnutrition. Who. 2021;24(2):51-78. https://www.who.int/publications/i/item/9789240025257