

Household Socioeconomic Status and Nutritional Knowledge of Mothers of Stunted and Non-Stunted Toddlers in Tulang Bawang Tengah District

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ABSTRACT

Stunting is one of the critical public health issues prioritized in Indonesia's national development agenda. This study aims to analyze the differences in household socioeconomic status and maternal nutritional knowledge among mothers of stunted and non-stunted toddlers in Tulang Bawang Tengah District. The total sample comprised 42 mothers of toddlers, including 21 mothers of stunted toddlers and 21 mothers of non-stunted toddlers. Data were analyzed using quantitative descriptive statistics and the Mann-Whitney U test. The results showed that household income and maternal nutritional knowledge significantly contributed as indirect factors in the occurrence of stunting. There was a significant difference in household income between mothers of stunted and non-stunted toddlers. The level of nutritional knowledge among mothers of stunted toddlers was categorized as moderate. Therefore, it is necessary to enhance mothers' curiosity and interest in learning more about food, nutrition, and signs of malnutrition in toddlers, in order to better prevent stunting.

Keywords: Knowledge, Socioeconomic Status, Stunting

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INTRODUCTION

Policies and programs aimed at improving human resources are essentially outcomes of national development. Human-centered development seeks to create a just, prosperous, and sustainable society. A healthy nation is a strong nation; therefore, health development designed to produce healthy human resources aligns with national development efforts (1).

Two of the Sustainable Development Goals (SDGs) focus specifically on health issues. The SDGs are an extension and refinement of the Millennium Development Goals (MDGs). To support a healthy population as the foundation of national strength, health development has

become part of the national development agenda. Malnutrition and stunting remain among the key public health challenges faced by the government.

Stunting is a condition of chronic malnutrition, characterized by a height that is too short for a child's age (2). Stunting negatively affects a child's life well into adulthood, particularly in terms of physical and cognitive development, and poses a serious threat to a country's future. With a height-for-age z-score (HAZ) of less than -2 standard deviations, stunting in developing countries is considered a serious public health issue due to its high prevalence. Research (3) shows that stunting leads to psychosocial and mental health problems, and results in

economic losses, with an estimated GDP loss of approximately 300 trillion rupiah annually.

According to the 2021 Indonesian Nutritional Status Survey, the national stunting rate was 18.5%. In Lampung Province, this rate has been decreasing consistently—falling to 15.2% in 2022 and further to 14.9% in 2023—placing Lampung among the top three provinces with the lowest stunting rates in Indonesia (4). However, three regencies in Lampung experienced an increase in stunting prevalence from 2019 to 2021. Tulang Bawang Barat Regency has become a focal area for stunting intervention in the province. In 2023, the stunting rate in Tulang Bawang Barat Regency dropped to 10.5%, down from 16.4% the previous year. Nonetheless, the Tulang Bawang Tengah sub-district saw an increase in stunting prevalence. In 2023, the number of stunted children under five in Tulang Bawang Tengah reached 83, up from 79 in 2022 (5).

Efforts to reduce stunting have primarily focused on addressing direct causes, such as the provision of supplementary food. However, the limited success of these interventions suggests the presence of indirect contributing factors. These include access to clean water and sanitation, food security, maternal nutritional knowledge, and socioeconomic conditions. Poverty limits access to adequate food and healthcare for low-income families (6). Access to healthcare and nutritious food is closely tied to a family's economic status. Nutritional knowledge significantly influences individual attitudes and behavior. A mother's knowledge of nutrition is particularly crucial in improving family nutritional status, especially that of children, due to her

central role in household food management and dietary choices (7).

Previous studies have shown correlations between indirect factors and the incidence of stunting. This study aims to analyze differences in household socioeconomic status and maternal knowledge of food and nutrition between mothers of stunted and non-stunted children under five in the Tulang Bawang Tengah sub-district.

METHODS

This study employed a survey method using a quantitative descriptive approach. The research was conducted in three villages (known locally as *tiyuh*): Tirta Kencana, Candra Jaya, and Penumangan, located in the Tulang Bawang Tengah sub-district. These locations were selected purposively based on having the highest number of stunted children per public health center in the sub-district. Data collection took place from March to April 2024.

The study population comprised all mothers with children under five years old in Tulang Bawang Tengah. The sample was drawn from villages with the highest stunting rates, totaling 834 mothers. All mothers with stunted children were included in the sample, along with a comparison group of mothers whose children had not experienced stunting from birth until the time of the study. The total sample consisted of 42 mothers—21 with stunted children and 21 with non-stunted children.

Data collection was conducted through interviews using a questionnaire that had been tested for validity and reliability. A questionnaire item was considered valid if the calculated correlation coefficient (r count) exceeded the critical value (r table). In this study, with the given

sample size and a 5% significance level, the *r* table value was 0.361. The *r* count was calculated using SPSS version 26 on 21 items measuring maternal knowledge of food and nutrition, resulting in 3 invalid items.

The reliability test was then performed on the remaining 18 valid items using Cronbach's Alpha coefficient. Interviews and observations were conducted directly at the respondents' homes.

Data were analyzed using quantitative descriptive statistics to illustrate household socioeconomic conditions and maternal nutritional knowledge among mothers of stunted and non-stunted children. The research instrument—a questionnaire—was pre-tested for item validity and reliability. Data collection was carried out through structured interviews. A Mann-Whitney U test was used to determine whether significant differences existed in household socioeconomic status and maternal nutrition knowledge between the two groups, using a significance threshold of 0.05.

RESULTS AND DISCUSSION

Based on Table 1, it can be seen that nearly all mothers of both stunted and non-stunted toddlers are, on average, 31

years old, within the age range of 23–35 years. Stunted toddlers tend to be older than non-stunted toddlers. Field observations revealed that three toddlers in Tiyuh Penumangan who were previously stunted were no longer stunted at the time of data collection. This is a positive achievement resulting from the stunting intervention team in Tiyuh Penumangan, and these children are now four years old. Most of the stunted toddlers were male (66.67%), while non-stunted toddlers were mostly female (61.9%). The height and weight of stunted toddlers were lower than those of non-stunted toddlers. On average, the height of stunted toddlers was 81.7 cm, and their average weight was 8.67 kg, compared to 10.6 kg for non-stunted toddlers. The higher height among stunted male toddlers compared to non-stunted ones is attributed to the younger age of the non-stunted group. Height and weight are used as indicators to diagnose stunting in infants, as birth weight helps to better understand the overall health and development of a child.

Social status includes the mother's education level, occupation, number of dependents, and land ownership, while household economic status is assessed through household income. Knowledge is a crucial factor in preventing stunting. In this study, knowledge refers to mothers' understanding of nutrition and

Table 1. Characteristics of Respondents Based on Mother's Age, Child's Age, Child's Height, and Weight in Tulang Bawang Tengah District

Category	Stunting		Not Stunting	
	Mean	%	Mean	%
Age (years)				
Mother	31	50	31	50
Child	3.3	58	2.4	42
Child's Height (cm)	81.7	48.6	86.3	51.4
Male	86.6	53	74.5	46.9
Female	76.8	47	84.4	53.1
Child's Weight (kg)	8.67	45	10.6	55
Male	9.5	65.5	11.3	52.4
Female	5	34.5	10.3	47.6

Table 2. Distribution of Family Socioeconomic Status and Nutritional Knowledge of Mothers with Stunted and Non-Stunted Children

Category	Stunting	Not Stunting
Mother's Education		
Elementary School	3	2
Junior High School	3	2
Senior High School	15	14
Higher Education	0	3
Total	21	21
Mother's Occupation		
Working	0	3
Not Working	21	18
Total	21	21
Number of Family Members		
Few (3-4)	15	19
Moderate (5-6)	6	2
Many (>6)	0	0
Total	21	21
Land Ownership		
Building		
Private Housing	21	20
Rented	0	1
None	0	0
Total	21	21
Land		
Own Land	4	7
Rented	1	2
None	16	12
Total	21	21
Knowledge		
High	8	18
Moderate	13	3
Low	0	0
Total	21	21

food, as well as stunting, measured using a questionnaire scored 2 for correct answers and 1 for incorrect ones. The distribution of socioeconomic status and mothers' knowledge of nutrition and food is presented in Table 2.

Table 2 data shows that among the 42 respondents, most mothers of stunted toddlers (15) and non-stunted toddlers (14) were high school graduates. Among the mothers of non-stunted toddlers, three were university graduates, while none of the mothers of stunted toddlers had higher education backgrounds. All mothers of stunted toddlers were

housewives, whereas among mothers of non-stunted toddlers, three were employed, including as teachers and traders.

Nearly all households owned their homes, with only one household (with a non-stunted toddler) living in a rented house. Most households had 3–4 family members, typically including 1–2 children. Of the 42 respondents, most households with stunted (16) and non-stunted (12) toddlers did not own rice fields or gardens. Additionally, most mothers of stunted toddlers (13 of 21) had a moderate level of knowledge,

Table 3. Mann-Whitney U Test Results on Household Socioeconomic Status and Nutritional Knowledge of Mothers in Tulang Bawang Tengah District

Variable	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
Socioeconomic Conditions			
Income	47.00	-4.393	0.000**
Education	177.00	-1.339	0.180
Occupation	199.50	-1.432	0.152
Number of Family Members	197.00	-0.655	0.512
Property Ownership	187.50	-1.027	0.304
Mother's Knowledge of Nutrition	89.00	-3.358	0.001**

while most mothers of non-stunted toddlers (18) had a high level of knowledge. Notably, none of the mothers had low knowledge levels. The average monthly income for households with stunted toddlers was IDR 1,902,381, while those with non-stunted toddlers had an average income of IDR 2,950,238. Income for households with stunted toddlers ranged from IDR 1,000,000 to 2,500,000, and from IDR 1,500,000 to 6,000,000 for non-stunted ones. The results of the hypothesis test on socioeconomic status and maternal knowledge differences can be seen in Table 3.

Based on the Mann-Whitney U test analysis, there are significant differences in family income and maternal knowledge of nutrition and food between households with stunted and non-stunted toddlers. This indicates that higher household income is associated with a lower likelihood of stunting. Low socioeconomic status can create social stratification, leading to disparities in access to health and sanitation facilities, which ultimately increase the risk of stunting (8). Additionally, higher maternal knowledge of nutrition and food promotes better childcare practices, reducing stunting occurrence, as adequate nutrition is essential for optimal early childhood growth. Families with stunted toddlers had a moderate income, averaging IDR 1,902,381, while non-stunted households

had a higher average income of IDR 2,950,238. This suggests that better family health is associated with higher income levels. Insufficient food consumption may result from low household income (9). Increased income can lead to economic growth, improved quality of life, and poverty reduction. Families often face limited purchasing power, particularly for nutritious food, due to the high cost of nutritious ingredients. According to research (10), low family income is strongly associated with stunting. Low-income families face constraints and difficulties in meeting daily needs.

The education level of mothers with stunted and non-stunted toddlers is generally high, with most being high school graduates. Non-formal education for these mothers is often obtained from healthcare workers, such as midwives and posyandu (integrated health service post) cadres in the Tulang Bawang Tengah Public Health Center. Research (11) shows that individuals with higher education tend to have better knowledge of nutrition and health practices. In Tulang Bawang Barat Regency, most toddler mothers are housewives. Some engage in side jobs as street vendors or run food stalls from home, while two mothers work as part-time teachers. Regardless of whether a child is stunted or not, household size is relatively small, averaging four members. This suggests no significant correlation between the

number of family members and stunting. The average age of stunted toddlers was 32 months and 31 months for non-stunted ones. This may explain the smaller family sizes. A study (12) supports these findings, showing that family size does not significantly impact a child's nutritional status.

All households, both with stunted and non-stunted toddlers, owned homes. Land ownership plays a crucial role in meeting family nutritional needs and increasing income through crop yields from rice fields or plantations. It ensures direct access to food and stable supplies until the next planting season. Home ownership significantly correlates with stunting occurrence, as stated by (13). Furthermore, a better living environment in a safe and proper home reduces disease risks, contributing positively to children's health.

Mothers of both stunted and non-stunted toddlers generally had moderate levels of knowledge. Education is one of many factors influencing a mother's understanding of stunting. There is a strong relationship between education and knowledge, as higher education often correlates with broader knowledge. According to research (14), parents with only primary education are not guaranteed to lack knowledge about stunting, but those with further education tend to have better understanding.

One contributing factor to stunting prevalence is parental knowledge of the condition. In Tulang Bawang Tengah District, there is a high number of stunted toddlers. This is reflected by the fact that nearly half of the mothers with stunted toddlers had lower knowledge levels compared to mothers of non-stunted children. This correlates with the high number of stunted children in the area. It is crucial for parents of stunted children to understand the definition,

signs, causes, influencing factors, impacts, and prevention methods of stunting. Parental knowledge affects the actions taken to care for and monitor toddler growth. Mothers must pay attention to the causes and consequences of stunting, as good understanding allows them to identify risk factors and take preventive measures (15). Furthermore, a high level of maternal knowledge encourages healthy lifestyle practices and proper nutrition for toddlers (16). Therefore, well-informed mothers can actively create an environment that supports their children's physical and mental development, ultimately improving their long-term health and well-being.

LIMITATIONS

This study is not without limitations.

RESEARCH ETHIC

The ethical considerations applied in this study included, first, obtaining approval from the village authorities to conduct the research in the designated village and requesting assistance in facilitating the research activities. Subsequently, informed consent was obtained from the respondents in a respectful manner, accompanied by an explanation of the research objectives. All data collected were kept confidential, accessible only to the researcher and the respective respondents, and used solely for the purposes of this study.

CONFLICT OF INTEREST

This research has no conflicts of interest with any parties.

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CONCLUSION

There is a significant difference in income between families with stunted and non-stunted toddlers, indicating that household income may contribute to the risk of stunting. Low family income affects access to adequate food and appropriate healthcare services. A clear difference was also found in the nutritional knowledge of mothers with stunted versus non-stunted children.

It is essential to implement programs aimed at improving family income and enhancing access to resources that support child health. The development of skills training and microenterprise programs is also important to boost household income. Nutritional education programs targeting mothers of stunted children should be introduced, along with evaluations to assess their impact on knowledge improvement. Further research should compare nutritional knowledge across different regions and examine the relationship between nutritional knowledge and socioeconomic factors related to stunting.

REFERENCES

1. Muthia G, Edison E, Yantri E. Evaluasi pelaksanaan program pencegahan stunting ditinjau dari intervensi gizi spesifik Gerakan 1000 HPK di Puskesmas Pegang Baru Kabupaten Pasaman. *J Kesehat Andalas*. 2020;8(4).
2. Haryono D, Marlina L. Partisipasi masyarakat pada pencegahan stunting di Desa Singaparna Kecamatan Singaparna Kabupaten Tasikmalaya. *Indones J Polit Policy*. 2021;3(2):42–52.
3. Yuliastini S, Sudiarti T, Sartika RAD. Factors related to stunting among children age 6–59 months in Babakan Madang sub-district, West Java, Indonesia. *Curr Res Nutr Food Sci J*. 2020;8(2):454–61.
4. Badan Kebijakan Pembangunan Kesehatan. Buku saku hasil studi status gizi Indonesia (SSGI) tahun 2022. Jakarta: Kementerian Kesehatan Republik Indonesia; 2022.
5. Tim Percepatan Penanggulangan Stunting Provinsi Lampung. Laporan Semester I Penyelenggaraan Percepatan Penurunan Stunting. Jakarta: Kementerian Dalam Negeri.
6. Ulfani DH, Martianto D, Baliwati YF. Faktor-faktor sosial ekonomi dan kesehatan masyarakat kaitannya dengan masalah gizi underweight, stunted, dan wasted di Indonesia: pendekatan ekologi gizi. *J Gizi Pangan*. 2011;6(1):59–65.
7. Sundari S, Khayati YN. Analisis hubungan tingkat pengetahuan ibu tentang gizi dengan status gizi balita. *Indones J Midwifery*. 2020;3(1):17–22.
8. Wardani DWSR, Wulandari M, Suharmanto S. Hubungan faktor sosial ekonomi dan ketahanan pangan terhadap kejadian stunting pada balita. *J Kesehatan*. 2020;11(2):287–93.
9. Budiana TA, Nugrahaeni DK, Mauliku NE. Perbedaan determinan faktor keluarga dengan kejadian balita stunting di pedesaan dan perkotaan. *Gema Wiralodra*. 2023;14(1):375–82.
10. Sutarto S, Azqinar TC, PS RD. Hubungan tingkat pendidikan ibu dan pendapatan keluarga dengan kejadian stunting pada balita di wilayah kerja Puskesmas Way Urang Kabupaten Lampung

- Selatan. J Dunia Kesmas. 2020;9(2).
11. Rakasiwi LS, et al. Pengaruh faktor demografi dan sosial ekonomi terhadap status kesehatan individu di Indonesia. *Kajian Ekon Keuang*. 2021;5(2):146–57.
 12. Purnamasari DU, Dardjito E, Kusnandar K. Hubungan jumlah anggota keluarga, pengetahuan gizi ibu dan tingkat konsumsi energi dengan status gizi anak sekolah dasar. *Kesmas Indones*. 2016;8(2):49–56.
 13. Pertiwi FD, Prastia TN, Nasution A. Hubungan faktor sosial ekonomi dan riwayat pemberian ASI eksklusif dengan kejadian stunting pada balita. *J Ilmu Kesehat Masyarakat*. 2021;10(4):208–16.
 14. Anugrahaeni HA, Nugraheni WT, Ningsih WT. Hubungan tingkat pendidikan dengan pengetahuan orang tua tentang stunting pada balita di wilayah kerja Puskesmas Semanding. *J Keperawatan Widya Gantari Indones*. 2022;6(1):64–72.
 15. Ernawati A. Media promosi kesehatan untuk meningkatkan pengetahuan ibu tentang stunting. *J Litbang Media Inform Penelit Pengemb IPTEK*. 2022;18(2):139–52.
 16. Utami RA, Setiawan A, Fitriyani P. Identifying causal risk factors for stunting in children under five years of age in South Jakarta, Indonesia. *Enferm Clin*. 2019;29:606–11.