

**Original Article**

**Education About the Provision of Supplementary Feeding to Toddler Mothers**

Sriwiyanti<sup>1</sup>, Sri Hartati<sup>1</sup>, Eliza<sup>1</sup>

<sup>1</sup> Poltekkes Kemenkes Palembang, South Sumatra, Indonesia

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ABSTRACT

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**Background:** The most important phase in growth and development is infancy and toddlerhood because that is the most important time for parents to build a foundation for growth and development of their children. Nutrition is the most important part in the growth and development of toddlers which is closely related to health and intelligence. the purpose of this research is to know education about the provision of supplementary feeding to toddler mothers.


**Methods:** Design of this research is quantitative with the Quasy Experimental One Group Pretest Posttest design. Giving education to mothers who have toddlers about how to provide supplementary food (PMT) for toddlers using booklets. Comparing the level of knowledge before and after being given education. Subjects were all toddler mothers in Perigi Village, Pulau Pinang District, Lahat District, totaling 75 people. The sampling technique was total sampling. Bivariate analysis was carried out by statistical tests using the Paired Samples T test.


**Results:** showed that there was a significant difference, after counseling with booklet media on increasing knowledge about Supplemental Feeding (PMT) for mothers under five in Perigi village. The level of good knowledge before the intervention was 6 people (8%) and the level of good knowledge increased to 35 people (46.8%). The use of Booklet media is proven to increase the level of knowledge. Booklets are made attractively so that mothers can easily study at home independently.

**Conclusion:** The benefits increasing the knowledge of toddler mothers about supplementary feeding (PMT) for toddlers. With increased knowledge about supplementary feeding (PMT), it is hoped that mothers can change their behavior in preparing food for toddlers.

 *Corresponding Author*

 *Affiliation*

 *Email*

 *Cite this as*

: Sriwiyanti

: Poltekkes Kemenkes Palembang, South Sumatra, Indonesia

: sriwiyanti@poltekkeskemenkespalembang.ac.id

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**Introduction**

The toddler period is a period of human formation and development, and this age is vulnerable because toddlers are susceptible to growth disorders and the dangers accompanying them. The toddler period is also known as the golden age, in

which the foundations of sensory abilities, thinking, speaking and intensive mental and intellectual development are formed and the beginning of moral growth. Development is the addition of more complex body structures and functions in gross, fine motor skills, speech and



language, as well as socialization and independence

According to [Setyorini, et al., 2021](#), undernutrition (wasting) and severe wasting in toddlers in Southeast Asia and the Pacific region in 2014 is still far from expectations. Indonesia ranks second highest for wasting prevalence among 17 countries, at 12.1%. In addition, the average case handling coverage in 9 countries in the region only reached 2%. (RI Ministry of Health, 2019). Nutrition is essential in supporting the continuity of the process of growth and development. Nutrition becomes a necessity to grow and develop during the growth period. In nutrition, there is a need for nutrients needed for growth and development, such as protein, carbohydrates, fats, minerals, vitamins, and water. If a person's nutritional needs are not or are not met, it can hinder his growth and development ([Dhami et al., 2019](#); [Humphrey et al., 2019](#); [Keats et al., 2021](#); [Lassi et al., 2020](#); [Walters et al., 2019](#))

Primary or secondary factors cause nutritional disorders. The primary factor is when a person's diet is wrong in quantity or quality due to a lack of food supply, poor food distribution, poverty, ignorance, wrong eating habits, etc. Factors Affecting Nutritional State include Food Consumption. Measuring food consumption is very important to know the reality of what people eat, and this can be useful for measuring nutritional status and finding factors that can cause malnutrition ([Bayih et al., 2021](#); [Kim et al., 2019](#); [Mistry et al., 2019](#); [Tampah-Naah et al., 2019](#); [Tassew et al., 2019](#)). Some things related to food consumption: According to [Rosidah \(2017\)](#), toddlers who have parents who earn less will affect the purchasing power of food, so nutritional intake, which significantly affects the nutritional status of toddlers, becomes inadequate. The quality and quantity of food consumed by family

members are influenced by the availability of food in the family, so what is consumed is not guaranteed for its nutritional content, resulting in disturbances in nutritional status.

Occupation, Mothers who do not work in the family can affect the nutritional intake of children under five because the mother acts as a caregiver and regulates the food consumption of family members. Working mothers do not have enough time to raise and care for their children, so their children may suffer from malnutrition. Education is an attempt to develop personality and abilities inside and outside of school (both formal and non-formal), lasting a lifetime. Education is a process of changing the attitude and behaviour of a person or group and also an effort to mature humans through teaching and training. Education affects the learning process. The higher a person's education, the easier it is to receive information. Social ability, this social data includes the condition of the population in a community, family conditions, education, housing, food storage, water and toilets ([Sari et al., 2023](#); [Suwardianto & Kurniawati, 2017](#))

Family ability to use food: Lack of mother's knowledge regarding nutrition that children must meet during the growth period. Mothers usually buy good food for their children without knowing whether the food contains sufficient nutrients or not and do not compensate by being able to plan healthy and nutritious food menus for themselves and their families to fulfil the necessary nutrients ([Fadare et al., 2019](#); [Pietravalle et al., 2021](#); [Stewart et al., 2019](#)).

Family nutrition is the gateway to improving community nutrition, and family nutrition education is the key to opening that gate. In the family, the mother plays a role in regulating family food. Therefore mothers are the main target of family nutrition education. Mother's knowledge of

how to treat food in processing to clean up dirt, but often done excessively so that it damages and reduces the nutrients it contains. An unfavourable environment can also affect nutrition in children. Environmental (food) factors include food ingredients, processing, storage, serving, hygiene, and sanitation ([Chen et al., 2019](#); [De Roza et al., 2019](#)).

Provision of supplementary feeding (PMT) is a direct intervention program for toddlers who lack energy and protein which aims to meet the nutritional needs of toddlers so that their nutritional status improves until they achieve good nutrition. Nutrition intervention aims to provide direct services to toddlers. There are two forms of nutrition services, namely individual services in the context of curing and recovering children from malnutrition or undernutrition and community services, namely in the context of preventing malnutrition in the community ([Alvi & Gupta, 2020](#); [George et al., 2019](#); [Syeda et al., 2021](#); [Titaley et al., 2019](#)).

Types of supplementary feeding are specially made foods that must be modified so that nutritional intake can be fulfilled according to needs, modified so that nutritional intake can be fulfilled according to protein and micronutrient needs, safe, clean, not too spicy and salty and easily consumed by children.

Knowledge is the result of "knowing," which occurs after people sense a particular object. This sensing occurs through the five human senses. Knowledge or cognition is a critical domain for forming one's actions. Behaviour-based on knowledge will be more lasting than behaviour that is not based on knowledge (Nursalam, 2012 in Notoatmodjo, 2014).

According to Puspitaningrum, et al (2017) in [Sriwiyanti \(2022\)](#), Media Booklet is simple writing and attractive pictures, in line with the results of the study, which

stated that booklets accompanied by attractive images would give an excellent impression to students because the language used is not too formal and not rigid which makes students have the desire to learn the contents of the booklet. [Hasanah \(2020\)](#) states that health education using booklets significantly increases the knowledge of high school students in Probolinggo Regency.

The problem faced by mothers with babies and toddlers in Perigi village is the difficulty in providing food to their babies and toddlers ([Sari et al., 2023](#)). This is because mothers still do not understand how to process food and provide additional food to their babies and toddlers. This difficulty was caused by a lack of information and outreach to them about PMT under five from local health workers.

From the background above, it was found that there was still a lack of knowledge among mothers with toddlers about supplementary feeding in Perigi village, so with this, the researcher intends to increase the knowledge of mothers who have toddlers about how to provide supplementary feeding for toddlers. So they can take care of their babies and toddlers through food.

## Methods

The research employed a quantitative design with the Quasy Experimental One Group Pretest Posttest design. Mothers with toddlers were educated about providing supplementary food to their children through a booklet. The study aimed to compare the level of knowledge regarding the Provision of supplementary feeding (PMT) in toddlers before and after the educational intervention. The research procedure consisted of several stages, including obtaining permits from the Lahat District

Health Office and the Pulau Pinang Health Center. Data collection included information on infants, toddlers, breastfeeding mothers, posyandu (integrated health post), and posyandu cadres (community health workers) within the population.

Secondary data was collected, and the number of research samples was determined using total sampling, where all mothers under the age of five in the village were included based on specific criteria. The research activities involved conducting a pre-test to gather initial knowledge-level data. Subsequently, an intervention was implemented by providing education using a booklet on the Provision of supplementary feeding to toddlers. Finally, a post-test was administered to obtain data on the knowledge level after the intervention. The research instrument utilized in this study was a questionnaire. This study has conducted an ethical test.

## Results

Table 1. Distribution of Population Composition

No	Composition	N	(%)
1.	Baby	12	4,1
2.	Toddlers	38	12,0
3.	School Children	83	28,3
4.	men	55	18,77
5.	women	75	26,6
6.	rderly	30	10,23
Total		293	100

Central Bureau of Statistics of Lahat Regency, 2019

Table 1. shows that the composition of the population in Perigi village is mostly school-age children, Perigi village has educational facilities starting from kindergarten to junior high school, but high school is located in a sub-district not far from the village, so school-age children still

live along with their families. At the same time, most of the adult men or women of productive age have left the area to look for work and a living in other cities.

Table. 2 Distribution of Respondent Characteristics

Characteristics	( n )	(%)
<b>Age</b>		
1. < 20 years old	15	20
2. 20 – 30 years old	25	33,4
3. 30 – 40 years old	23	30,6
4. > 40 years old	12	16
<b>Education</b>		
1. Elementary School	10	13,33
2. Junior high school	28	37,33
3. Senior High school	32	42,67
4. Bachelor	5	6,66
<b>Occupation</b>		
1. Housewife	48	64
2. Workers	15	20
3. Civil servant	5	6,67
4. Entrepreneurs	7	9,33
Total	75	100

Table 2. Shows the respondents are a group of mothers who have babies and toddlers at the age of 20-30 years = 25 people (33.4%), most of them have high school education (SMA) = 32 people (42.67%) and work as housewives = 48 people (64%).

Table. 3 Distribution of Knowledge Level of Respondents

No.	Knowledge Level	N		%	
		Before	After	before	after
1.	Less	57	14	76	18,6
2.	enough	12	26	16	34,6
3.	Good	6	35	8	46,8
Total		75	75	100	100



Table 3. It can be seen that the respondents' knowledge level before and after the educational intervention was carried out using booklets. The level of knowledge prior to conducting education regarding the provision of supplementary food for toddlers to mothers is as follows; Less = 57 people (76%), Enough = 12 people (16%), Good = 6 people (8%).

Most of the mothers' knowledge level about PMT is still lacking. The level of knowledge after education about PMT is as follows, Less Knowledge Level = 14 people (18.6%), Adequate = 26 people (34.6%) and Good = 35 people (46.8%).

This study shows an increase in mothers of toddlers' knowledge about PMT after education. New mothers understand the meaning, purpose and processing of toddlers' supplementary feeding (PMT).

Tabel .4 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 pretest	1,3200	75	0,61863	0,07143
1 posttest	2,2800	75	0,76335	0,08814

Tabel.5 Analysis of results for differences in knowledge levels

Pair	pretest	Paired Differences		t	df	Sig. (2-tailed)
		Lower	Upper			
1	posttest	1,15449	,76551	9,835	74	0,000

Table 4. Presenting the knowledge level about PMT before and after being given education using booklet media, statistical tests were carried out using the Paired Samples T-test obtained p value = 0.000 which indicates a significant difference in the level of knowledge before

and after giving intervention through booklet media.

This is in line with the results of Sriwiyanti's research, 2022, which stated that nutrition education using booklet media significantly influenced knowledge and attitudes about stunting in young women at state high school 05, Manggul village, Lahat district.

If the mother's level of knowledge about supplementary feeding for toddlers increases, the mother's ability to process additional food for her babies and toddlers will be better, especially health care for babies and toddlers through nutritious food.

## Discussion

Respondent characteristics are an indirect cause of the level of knowledge of mothers regarding the provision of supplementary food (PMT) for toddlers. PMT knowledge of mothers who still lacking is motivated by mothers' education level, most of whom only reach elementary and junior high school (50.66%) and the lack of socialization about PMT from local health workers.

This study's results follow the theory that existing knowledge in humans depends on the level of education obtained informally and formally, where the level of knowledge will influence how a person understands knowledge about nutrition and health. Knowledge of a person's nutrition will influence a person's attitudes and behaviour in choosing food and ultimately affect a person's nutrition. It is hoped that a high level of knowledge will also improve one's nutritional status.

Increasing the level of education will make it easier for a person to obtain information, including information about nutrition and health which will then bring positive traits to the health sector. Research

by [Rahmawati \(2017\)](#) found that toddler mothers' knowledge, attitudes and actions influenced the prevention of malnutrition before and after attending nutritional counselling. Suppose the mother's knowledge and behavior regarding supplementary feeding are good. In that case, it will have a positive impact on the nutritional status of the child so that malnutrition can be prevented by providing supplementary food that is balanced and sufficient to meet the nutritional needs of the child. This proves that many factors affect nutritional status apart from food intake, including the mother's knowledge (Unicef 1996 in Supriasa, 2012).

Statistically, nutrition education using booklets significantly increased respondents' knowledge after the intervention, Images. The term booklet comes from book and leaflet, meaning booklet media combines leaflets and books with small formats (sizes), such as leaflets. The structure of the contents of a booklet resembles a book, and it is just that the way the contents are presented is much shorter than that of a book. The advantage of booklet media is that it can be used as a medium or tool for self-study and can learn its contents quickly

The results showed a significant difference after counselling with booklet media on increasing knowledge about Supplementary Feeding (PMT) for toddler mothers in Perigi village. Booklets are made attractively so that mothers can efficiently study at home independently

## Conclusions

Increased knowledge of toddler mothers about Supplementary Feeding (PMT) by 11.8 points from knowledge about PMT before education. Providing nutrition education using Booklet media shows a significant effect on the level of knowledge

of mothers of toddlers about PMT for toddlers. Puskesmas is expected you will further increase counselling activities about toddler nutrition and how to make additional food for toddlers. It is hoped that mothers of toddlers regularly weigh themselves at the posyandu

## Authors Contributions

The author carries out tasks from data collection, data analysis, making discussions to making manuscripts

## Conflicts of Interest

All research teams agree with the final results of this study, and there is no conflict of interest in this study.

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## References

- Alvi, M., & Gupta, M. (2020). Learning in times of lockdown: how Covid-19 is affecting education and food security in India. *Food Security*, 12(4), 793–796.
- Bayih, W. A., Tezera, T. G., Alemu, A. Y., Belay, D. M., Hailemeskel, H. S., & Ayalew, M. Y. (2021). Prevalence and determinants of asphyxia neonatorum among live births at Debre Tabor General Hospital, North Central Ethiopia: a cross-sectional study. *African Health Sciences*, 21(1), 385–396.
- Chen, J., Xin, T., Gaoshan, J., Li, Q., Zou, K., Tan, S., Cheng, Y., Liu, Y., Chen, J., & Wang, H. (2019). The association between work related factors and breastfeeding practices among Chinese working mothers: a mixed-method

- approach. *International Breastfeeding Journal*, 14(1), 1–13.
- De Roza, J. G., Fong, M. K., Ang, B. L., Sadon, R. B., Koh, E. Y. L., & Teo, S. S. H. (2019). Exclusive breastfeeding, breastfeeding self-efficacy and perception of milk supply among mothers in Singapore: A longitudinal study. *Midwifery*, 79, 102532.
- Dhami, M. V., Ogbo, F. A., Osuagwu, U. L., & Agho, K. E. (2019). Prevalence and factors associated with complementary feeding practices among children aged 6–23 months in India: a regional analysis. *BMC Public Health*, 19(1), 1–16.
- Fadare, O., Amare, M., Mavrotas, G., Akerele, D., & Ogunniyi, A. (2019). Mother's nutrition-related knowledge and child nutrition outcomes: Empirical evidence from Nigeria. *PloS One*, 14(2), e0212775.
- George, A., Sousa, M. S., Kong, A. C., Blinkhorn, A., Patterson Norrie, T., Foster, J., Dahlen, H. G., Ajwani, S., & Johnson, M. (2019). Effectiveness of preventive dental programs offered to mothers by non-dental professionals to control early childhood dental caries: a review. *BMC Oral Health*, 19, 1–9.
- Humphrey, J. H., Mbuya, M. N. N., Ntozini, R., Moulton, L. H., Stoltzfus, R. J., Tavengwa, N. V., Mutasa, K., Majo, F., Mutasa, B., & Mangwadu, G. (2019). Independent and combined effects of improved water, sanitation, and hygiene, and improved complementary feeding, on child stunting and anaemia in rural Zimbabwe: a cluster-randomised trial. *The Lancet Global Health*, 7(1), e132–e147.
- Keats, E. C., Das, J. K., Salam, R. A., Lassi, Z. S., Imdad, A., Black, R. E., & Bhutta, Z. A. (2021). Effective interventions to address maternal and child malnutrition: an update of the evidence. *The Lancet Child & Adolescent Health*, 5(5), 367–384.
- Kim, S. S., Nguyen, P. H., Yohannes, Y., Abebe, Y., Tharaney, M., Drummond, E., Frongillo, E. A., Ruel, M. T., & Menon, P. (2019). Behavior change interventions delivered through interpersonal communication, agricultural activities, community mobilization, and mass media increase complementary feeding practices and reduce child stunting in Ethiopia. *The Journal of Nutrition*, 149(8), 1470–1481.
- Lassi, Z. S., Rind, F., Irfan, O., Hadi, R., Das, J. K., & Bhutta, Z. A. (2020). Impact of infant and young child feeding (IYCF) nutrition interventions on breastfeeding practices, growth and mortality in low-and middle-income countries: systematic review. *Nutrients*, 12(3), 722.
- Mistry, S. K., Hossain, M. B., & Arora, A. (2019). Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood: a post-program comparison study. *Nutrition Journal*, 18, 1–9.
- Pietravalle, A., Scilipoti, M., Cavallin, F., Lonardi, M., Tshikamb, I. M., Robbiati, C., Trevisanuto, D., & Putoto, G. (2021). Nutritional education during rehabilitation of children 6–24 months with acute malnutrition, under unavailability of therapeutic/supplementary foods: a retrospective study in rural Angola. *BMC Pediatrics*, 21(1), 1–9.
- Sari, L. L., Hilinti, Y., Ayudiah, F., Br.Situmorang, R., & Herdianto, E. (2023). Antropometri Pengukuran Status Gizi Balita Di Ra. Makfiratul Ilmi Bengkulu Selatan. *Jurnal Abdi Kesehatan Dan Kedokteran*, 2(1 SE-Articles), 1–6. <https://doi.org/10.55018/jakk.v2i1.6>

- Stewart, C. P., Caswell, B., Iannotti, L., Lutter, C., Arnold, C. D., Chipatala, R., Prado, E. L., & Maleta, K. (2019). The effect of eggs on early child growth in rural Malawi: the Mazira Project randomized controlled trial. *The American Journal of Clinical Nutrition*, *110*(4), 1026–1033.
- Suwardianto, H., & Kurniawati, F. (2017). Gambaran Frekuensi Sakit Pada Bayi Yang Mendapat Asi Eksklusif. *JURNAL PENELITIAN KEPERAWATAN*, *3*(1).
- Syeda, B., Agho, K., Wilson, L., Maheshwari, G. K., & Raza, M. Q. (2021). Relationship between breastfeeding duration and undernutrition conditions among children aged 0–3 Years in Pakistan. *International Journal of Pediatrics and Adolescent Medicine*, *8*(1), 10–17.
- Tampah-Naah, A. M., Kumi-Kyereme, A., & Amo-Adjei, J. (2019). Maternal challenges of exclusive breastfeeding and complementary feeding in Ghana. *PloS One*, *14*(5), e0215285.
- Tassew, A. A., Tekle, D. Y., Belachew, A. B., & Adhena, B. M. (2019). Factors affecting feeding 6–23 months age children according to minimum acceptable diet in Ethiopia: A multilevel analysis of the Ethiopian Demographic Health Survey. *PloS One*, *14*(2), e0203098.
- Titaley, C. R., Ariawan, I., Hapsari, D., Muasyaroh, A., & Dibley, M. J. (2019). Determinants of the stunting of children under two years old in Indonesia: A multilevel analysis of the 2013 Indonesia basic health survey. *Nutrients*, *11*(5), 1106.
- Walters, C. N., Rakotomanana, H., Komakech, J. J., & Stoecker, B. J. (2019). Maternal determinants of optimal breastfeeding and complementary feeding and their association with child undernutrition in Malawi (2015–2016). *BMC Public Health*, *19*, 1–12.
- Alhamid, et al, 2021, Study of the Nutritional Status of Toddlers, Faculty of Health Sciences, National University of Jakarta, *Journal of Midwifery* Vol 7 No. January 1, 2021: 133-138.
- Arimond M, Ruel MT, 2004 , Dietary diversity is associated with child nutritional status: Evidence from 11 demographic and health surveys. *J Nutr*. 2004;134(10):2579-85. <https://doi.org/10.1093/jn/134.10.2579> PMID:15465751.
- Edvina, 2015, The effect of giving supplementary food to undernourished toddlers aged 6-48 months on nutritional status in the Sei Tatas Health Center area of Kapuas Regency, Staff of the Palangkaraya Regional General Hospital, Central Kalimantan, *Indonesian Public Health Journal*, Vol. 2 No.3, December 2015.
- Erina, et al, 2022, Effectiveness of Supplementary Feeding (PMT) and Nutrition Counseling in Improving the Nutritional Status of Toddlers, Indonesian Pioneer University, West Sumatra, Indonesia.
- Garini, et al, 2019, Factors Influencing Nutritional Status in Children Aged 6-24 Months in Lamongan District, Muhammadiyah University, Surabaya.
- Hasanah, Ulfiatun, 2020, The effect of booklet media on girls' knowledge of stunting in Probolinggo Regency, Jember Health Polytechnic.
- Mittal A, Singh J, Ahluwalia S. Effect of maternal factors on nutritional status of 1-5-year-old children in urban slum population. *Indian J Community Med*. 2007;32(4):264. <https://doi.org/10.4103/0970-0218.37691>
- Prabandari, 2018, the effect of counseling with video media and booklets on the level of knowledge of adolescent



reproductive health at SMK 2 Muhammadiyah Bantul, Poltekkes Kemenkes Yogyakarta.

- Rahmawati, R., Rezal, F., & Erawan, P. (2017). The Effect of Nutrition Counseling Using Booklet Media on Increasing Knowledge, Attitudes, and Actions of Mothers in Efforts to Prevent Malnutrition of Toddlers in the Working Area of the Puuwatu Health Center, Kendari City, 2017.
- Rosidah, et al, 2017 The Relationship between Nutritional Status and Development of Toddlers aged 1-3 years, Journal of Midwifery Dharma Husada Kediri, Vol 6 No.2 , April 2017
- Setyorini, et al, 2021, description of the nutritional status of infants and toddlers during the covid-19 period in the Jetis Sukoharjo sub-district, STIKES Mamba'ul Ulum Surakarta, Avicenna: Journal of Health Research, Vol 4 No 1. March 2021 (118 - 127)
- Sriwiyanti, et al, 2022, Effectiveness of nutritional education on knowledge and adolescent attitudes about stunting in High School, Journal of Applied Nursing and health, Vol 4 No. 1 june 2022.
- Supriasa, 2012, Assessment of Nutritional Status, ECG
- Yuliastati & Amelia. 2016. Child Nursing Module. Jakarta: Ministry of Health Republic of Indonesia Health Human Resources Center.