

# The Effect Of Health Education On Nutrition On Increasing Mothers' Knowledge In Preventing Stunting In Children

Atik Aryani<sup>1,\*</sup>, Indriyati<sup>1</sup>, Vitri Dyah Herawati<sup>1</sup>, Ni'mah Mufidah<sup>1</sup>, ETTY Eriyanti<sup>1</sup>

1 Nursing Study Program, Sahid University of Surakarta

\* E-mail: [atikaryani@usahidsolo.ac.id](mailto:atikaryani@usahidsolo.ac.id)

## ABSTRACT

**Background:** Early childhood stunting is a chronic nutritional problem that results in impaired growth due to long-term nutritional deficiencies. Stunting can increase the risk of disease, inhibit brain and mental development, and affect children's motor development. Lack of maternal knowledge can increase the risk of stunting in children. Therefore, maternal education and knowledge are very important in preventing stunting, so it is necessary to increase knowledge through providing health education about nutrition. The purpose of this study was to analyze the effect of providing health education on nutrition on maternal knowledge in preventing stunting in children. **Methods:** This study used pre-experimental research with one group pre-test post-test design. The number of samples was 36 respondents and the sampling technique used total sampling. Data collection using a questionnaire. Data analysis using the paired sample t test statistical test. **Research Results:** The mean value of maternal knowledge before being given health education is 61.89 after being given health education is 87.36. The results of the Paired sample t test analysis obtained a p value of  $0.001 < 0.05$ . **Conclusion:** There is an effect of providing health education about nutrition on maternal knowledge in preventing stunting in children. **Suggestion:** nurses can carry out the role of educator through providing health promotion to mothers and the community as an effort to prevent stunting in children.

## KEYWORDS

Health education; knowledge; stunting prevention

## 1. INTRODUCTION

Stunting is a failure of child growth caused by malnutrition, so that children do not grow like other children of the same age, which occurs from the beginning of pregnancy until after the baby is born. But stunting conditions will begin to appear after the baby is 2 years old. (Julita, Kusumarini dan Aulia, 2023). Stunting occurs as a result of a long period of malnutrition. A stunted child has a height-for-age index (TB/U) of less than minus two standard deviations ( $<-2$  SD) or a toddler's height is shorter than it should be at a certain age. According to the World Health Organization (WHO) in Global Nutrition Targets 2025, stunting is considered an irreversible growth disorder that is largely influenced by inadequate nutritional intake and recurrent infections during the first 1000 days of life (KemenkesRI, 2021). Children can experience stunting due to a lack of maternal knowledge about special child nutrition in the first 1000 days after birth. The adverse effects of stunting in the short term are disruption of brain development, intelligence, impaired physical growth, and metabolic disorders in the body, and the long-term effects of stunting are decreased cognitive abilities and learning achievement, decreased immunity so that they get sick easily, and a high risk of diabetes, obesity, heart and blood vessel disease, cancer, stroke, and disability in old age. (Rini, 2020).

Stunting prevention starts from the preparation of prospective mothers to the period of maintaining the development of babies so that the quality of life of children is better. Pregnancy is a period of early life or commonly called the First 1000 Days of Life. This period is also often called the sensitive period. The development of human brain cells during this period determines the quality of future human resources, so if there is a disturbance during this period it will have a permanent, irreparable impact. Nutrition is one of the determinants of the quality of human resources, nutrition is also a factor that affects the health of the mother (Julita, Kusumarini dan Aulia, 2023).

The level of maternal knowledge is one of the factors that cause stunting in children. Mothers care for and determine the food consumed by children and other family members. Mothers who have poor knowledge about nutrition can make children experience nutritional disorders such as stunting. (Kuswanti dan Azzahra, 2022). Providing nutrition counseling can affect knowledge, and attitudes about stunting where there is an increase in maternal knowledge about stunting and an increase in maternal attitudes. (Mulyani et al., 2022). The role of mothers is very important in fulfilling children's nutrition, so that children can grow and develop optimally according to their age and avoid nutritional problems, one of which is stunting. (Munawaroh et al., 2022).

The results of the preliminary study found that 6 out of 10 mothers in 'Aisiyiyah Bustanul Athfal Mandong Kindergarten, Trucuk, Klaten Regency did not know about good nutrition or nutrition for the prevention of stunting in children. The purpose of this study was to analyze the effect of providing health education on nutrition on maternal knowledge in preventing stunting in children.

## 2. METHODOLOGY

This study uses a one group pre-test and post-test pre experiment design which aims to increase mothers' knowledge in preventing stunting in children. The sampling technique used total sampling, a total of 36 respondents. Data collection using a knowledge questionnaire. Analysis using paired sample t-test.

Before providing education, researchers identified mothers who were willing to become respondents and asked mothers to fill out an agreement sheet to participate in research activities until completion. Researchers then asked respondents to fill out a characteristic questionnaire consisting of age, education, occupation, and asked respondents to fill out a knowledge questionnaire (pretest).

After the pretest, researchers provided nutrition education to mothers to increase their knowledge about nutrition in preventing stunting in children. Researchers and parents also discussed various matters related to child nutrition to prevent stunting. Researchers re-measured the mother's level of knowledge about nutrition (posttest) using the same questionnaire at the time of the pretest.

Data obtained during the research activities were collected and processed using computerization starting from the editing, coding, entry and tabulating stages. The data that has been processed is analyzed using the paired t test to determine whether or not there is an effect of nutrition health education on increasing maternal knowledge in preventing stunting in children and then presented in the form of a table.

### 3. RESULTS

#### a. Characteristics of Respondents

The characteristics of respondents in this study include age, education, and occupation. The characteristics of respondents can be seen in table 1 as follows:

Table 1 Frequency Distribution of Respondents Based on Age, Education and Occupation

Characteristics	Frequency (f)	Percentage (%)
<b>Age</b>		
Teenagers (17-25 years old)	5	13,9
Early Adult (26-35 years old)	22	61,1
Late Adult (36-45 years old)	9	25
<b>Education</b>		
Elementary		
Junior High	6	16,7
High School	23	63,9
Higher Education	7	19,4
<b>Occupation</b>		
Housewife (IRT)	23	63,9
Trader / Entrepreneur / Private Employee	8	22,2
Civil Servant	5	13,9

#### b. Univariate Test

Table 2. Distribution of Respondents' Knowledge Before and After Given Education

Knowledge	Pretest		Posttest	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Good	2	5,5	36	100
Fair	34	94,5	0	0

Less	0	0	0	0
------	---	---	---	---

Table 2 shows that there was an increase in maternal knowledge with a good value category in the posttest compared to the pretest. The maternal knowledge with a sufficient category at the time of the pretest was 34 respondents (95.5%) and good knowledge was 2 people (5.5%). After being given an educational intervention, all respondents' knowledge increased to a good category.

The results of this study are in line with the research of Amraini, et al (2024) which showed that before being given stunting education through audiovisual media, out of 45 respondents, there were 40 (88.9%) respondents with a good knowledge category and there were 5 (11.1%) respondents with a poor knowledge category. Meanwhile, after being given stunting education through audiovisual media, out of 45 respondents, 45 (100%) respondents were in the good knowledge category.

c. Bivariate Test

Table 4. Paired T-Test Results of the Effect of Providing Education

Knowledge	Mean	Difference	t	p value
Pretest	61,89	25,47	-25,48	0,0001
Posttest	87.36			

The results of the analysis in Table 4 show that the average knowledge of mothers before receiving counseling (pre-test) is 61,89 and after receiving counseling (post-test) is 87,36. These results indicate that there is an increase in maternal knowledge after receiving counseling on nutrition in preventing stunting in children. The T-Test results show that the p value which can be seen in sig (2 tailed) is  $0.001 < \alpha 0.05$  which means that there is a significant difference in maternal knowledge before and after getting education.

#### 4. DISCUSSION

Increasing one's age will change physical and psychological (mental) aspects. Respondents were mostly aged 26-35 years as much as 61.1%. Physical growth consists of four categories of changes, namely changes in size, changes in proportion, loss of old characteristics, and the emergence of new characteristics. These changes occur due to the maturation of organ functions. In the psychological or mental aspect, a person's level of thinking becomes more mature and mature. (Notoatmodjo, 2014). Age affects a person's capturing power and mindset, the older the age, the more developed the capturing power and mindset so that the knowledge gained will be even better. (Notoatmodjo, 2014). The results of this study are in line with the results of research conducted by Setyaningsih and Dari (2019) in the North Larangan Health Center area of Tangerang City, which found that almost all respondents had an early adult age, namely 67 respondents (90.5%). Maternal age affects knowledge and ability to make decisions. So the older a person gets, the more likely it is that knowledge will increase because of the information and experience gained. (Setyaningsih dan Dari, 2019). Age is a characteristic of a person that relates to his inner nature and nature in determining better behavior. (Mardianti dan Yuli Farida, 2020).

The level of education is an effort or activity to create conducive community behavior. The high formal education of a person can reflect the better knowledge and skills they have about the health they need. A person's high level of knowledge will be followed by better behavior towards a behavior. (Surury et al., 2021). The results showed that the majority of

respondents' education was high school as many as 23 respondents (63.9%). The results of this study are in line with previous research which states that there is a significant difference in the average value of the attitude of mothers of toddlers before and after being given Booklet media with the average pre-post value of knowledge of mothers of toddlers about stunting before being given Booklet media is 0,440 with a standard deviation of 0,501. (Khatimah, Iksan dan Avila, 2024). Education is one of the most important factors in determining parental behavior, because parents with high education will affect the health of their families, because a lot of information is obtained at school, but if someone has a low education, it is hoped that parents can increase their information from other sources outside of formal education or called informal channels such as through electronic media (television, radio, internet), reading newspapers, or magazines. (Teja, Mastryagung dan Diyu, 2021).

The work environment can make a person gain experience and knowledge, both directly and indirectly. The results showed that the majority of respondents' jobs were housewives as many as 23 respondents (63.9%). The results of this study are in line with the results of research conducted by Setyaningsih and Dari (2019) which analyzed that almost all respondents were housewives, namely 65 respondents (87.8%) and a small proportion of respondents were private employees, namely 2 respondents (2.7%). Work does not affect the knowledge of mothers, it can be seen from the results of this study which shows that some mothers who work as housewives have quite good knowledge compared to mothers who work. This is because many mothers are monitored at home by health workers. However, work is not an obstacle for mothers in feeding their children, because mothers who do not work do not always feed their children on time. (Siringoringo et al., 2020).

Stunting is a condition of growth failure in children under five due to chronic malnutrition, especially in the first 1,000 days of life (HPK). Stunting affects brain growth and development. Stunted children also have a higher risk of suffering from chronic diseases in their adult life. The problem of stunting occurs starting from the womb and will only be seen when the child reaches the age of two. UNICEF defines stunting as the percentage of children aged 0 to 59 months, with height below minus (moderate and severe stunting) and minus three (chronic stunting). This is measured using child growth standards issued by WHO. In addition to experiencing stunted growth, stunting is also often associated with the cause of poor brain development (Ginting, Simamora dan Siregar, 2022).

The results showed that the average value of maternal knowledge increased by 25.47, before being given health education amounted to 61.89 after being given health education amounted to 87.36. The results of the Paired sample t test analysis obtained a p value of  $0.001 < 0.05$  so it was concluded that there was an effect of nutritional health education on increasing maternal knowledge in preventing stunting in children.

Nutrition education interventions include providing knowledge and providing motivation towards changing attitudes and child feeding behavior. Nutrition education can increase the awareness and concern of mothers of toddlers about the problem of stunting and improve their ability to make decisions related to children's health and nutrition.

The results of this study are in line with the results of previous studies which show a p value of  $0.002 < \alpha (0.05)$ , meaning that there is a significant difference in the average knowledge value of pregnant women before and after being given Booklet media about stunting. Pregnant women are expected to increase their knowledge and instill positive attitudes in order to carry out stunting prevention behavior through activities to increase the search for health information through health seminars, counseling at posyandu and utilizing health promotion media. (Zahra, Fitriani dan Yogaswara, 2021).

Previous research states that maternal factors that have a significant relationship with the incidence of stunting in children are maternal knowledge about nutritional status in children, exclusive breastfeeding and complementary feeding. Nutritional knowledge has an impact on the mother's parenting to her child. Mothers with poor nutritional knowledge tend to pay less attention to the food intake given to their children, so that children have the opportunity to become malnourished and end up becoming stunted children. This can be a reflection that the mother's level of knowledge about nutrition is very supportive of child development and growth. Where in practice mothers are required to understand what are the factors that cause stunting tendencies. So that mothers can provide precise nutritional needs according to the needs of handling stunting cases. (Wati, Kusyani dan Fitriyah, 2021)

## 5. CONCLUSION

There is an effect of providing health education about nutrition on maternal knowledge in preventing stunting in children. Suggestion: nurses can carry out the role of educator through providing health promotion to mothers and the community as an effort to prevent stunting in children.

## REFERENCES

- Ginting, S., Simamora, A.C. dan Siregar, N. (2022) "Pengaruh Penyuluhan Kesehatan Dengan Media Audiovisual Terhadap Perubahan Pengetahuan, Sikap, dan Praktik Ibu Hamil Dalam Pencegahan Stunting di Kecamatan Doloksanggul Kabupaten Humbang Husundutan Tahun 2021," *Journal of Healthcare Technology and Medicine*, 8(1), hal. 2615-109.
- Julita, S., Kusumarini, N. dan Aulia, N. (2023) "Pendidikan Kesehatan dengan Media Audiovisual untuk Meningkatkan Pengetahuan tentang Pencegahan Stunting," *Jurnal Penelitian Kesehatan Suara Forikes*, 14(April), hal. 254-256.
- KemkesRI (2021) *Profil Kesehatan Indonesia*, Pusdatin Kemkes. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Khatimah, N.H., Iksan, M. dan Avila, D.Z. (2024) "Perbedaan Pengetahuan Dan Sikap Ibu Balita Sebelum Dan Sesudah Menggunakan Media Booklet Tentang Stunting," *Jurnal Kesehatan Tambusai*, 5, hal. 2662-2673.
- Kuswanti, I. dan Azzahra, S.K. (2022) "Jurnal Kebidanan Indonesia," *Jurnal Kebidanan Indonesia*, 13(1), hal. 15-22.
- Mardianti dan Yuli Farida (2020) "Faktor - faktor yang berhubungan dengan status imunisasi dasar pada bayi di Desa Rengasdengklok Selatan Kabupaten Karawang," *Jurnal Kebidanan Indonesia*, 5(3), hal. 248-253.
- Mulyani, N.S. et al. (2022) "Peningkatan pengetahuan dan sikap ibu untuk pencegahan stunting di Kabupaten Aceh Besar," *Jurnal PADE: Pengabdian & Edukasi*, 4(1), hal. 28. Tersedia pada: <https://doi.org/10.30867/pade.v4i1.810>.
- Munawaroh, H., Nada, N. K., Hasjiandito, A., Faisal, V. I. A., Heldaanita, H., Anjarsari, I., & Fauziddin, M. (2022). Peranan Orang Tua Dalam Pemenuhan Gizi Seimbang Sebagai Upaya Pencegahan Stunting Pada Anak Usia 4-5 Tahun. *Sentra Cendekia*, 3(2), 47-60.
- Notoatmodjo, S. (2014) *Pendidikan Dan Perilaku Kesehatan*. Jakarta: EGC.

- Rini, W.N.E. (2020) "Pengaruh Penggunaan Media Audio Visual Terhadap Peningkatan Pengetahuan Ibu Tentang Stunting di Puskesmas Rawasari Kota Jambi Tahun 2019," *Jurnal Kesmas Jambi*, 4(1), hal. 23-27. Tersedia pada: <https://doi.org/10.22437/jkmj.v4i1.8939>.
- Setyaningsih, P.H. dan Dari, E.W. (2019) "hubungan pengetahuan ibu tentang imunisasi dasar dengan kelengkapan imunisasi dasar di wilayah Kerja Puskesmas Larangan Utara Kota Tangerang," *Edudharma Journal*, 3(2), hal. 44-55.
- Siringoringo, E.T. et al. (2020) "Karakteristik keluarga dan tingkat kecukupan asupan zat gizi sebagai faktor resiko kejadian stunting pada baduta," *Journal of Nutrition Collage*, 9.
- Surury, I. et al. (2021) "Analisis Faktor Risiko Ketidaklengkapan Imunisasi Dasar Pada Bayi Di Wilayah Jember," *Jurnal Kedokteran dan Kesehatan*, 17(1), hal. 18-26. Tersedia pada: [https://doi.org/10.52264/jurnal\\_stikesalqodiri.v7i1.113](https://doi.org/10.52264/jurnal_stikesalqodiri.v7i1.113).
- Teja, N.M.A.Y.R., Mastyagung, G.A.D. dan Diyu, I.A.N.P. (2021) "Hubungan Pengetahuan Dan Paritas Dengan Anemia Pada Ibu Hamil," *Jurnal Menara Medika*, 3(2), hal. 143-147.
- Wati, S.K., Kusyani, A. dan Fitriyah, E.T. (2021) "Pengaruh faktor ibu ( pengetahuan ibu , pemberian ASI- eksklusif & MP-ASI ) terhadap kejadian stunting pada anak," *Journal of Health Science Community*, 2(1), hal. 13.
- Zahra, A.S., Fitriani, S. dan Yogaswara, D. (2021) "Perbedaan Pengetahuan dan Sikap Ibu Hamil Sebelum dan Sesudah Menggunakan Media Booklet tentang Stunting," *Jurnal Penelitian dan Pengembangan Kesehatan Masyarakat Indonesia*, 2(2), hal. 123-128. Tersedia pada: <https://doi.org/10.15294/jppkmi.v2i2.52427>.