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Impact of health education on stunting knowledge among mothers with children aged 1-5 years

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Abstract

Background: Stunting remains an unresolved nutritional issue, particularly affecting the first 1,000 days of life, from the fetal stage to 23 months of age. This condition can negatively impact a child's intelligence and overall health. According to the World Health Organization (WHO), stunting becomes a public health concern when its prevalence exceeds 20%. Parents, especially mothers, play a crucial role in ensuring adequate nutrition for their children.
Purpose: To find out the effect of health education on stunting knowledge among mothers with children aged 1-5 years.
Method: A pre-experimental "one group pretest-posttest" design was employed. The sample consisted of 35 mothers with children aged 1 to 60 months, selected using the non-probability sampling technique through total sampling.
Results: Before the health education intervention, 40.0% of mothers had moderate knowledge about stunting. After the intervention, this figure increased to 60.0%, indicating a good level of understanding. A paired simple t-test showed a statistically significant improvement with a p-value of 0.000 (<0.05).
Conclusion: Health education has a positive impact on increasing mothers' knowledge about stunting in Sumberwungu village, Tepus sub-district, Gunung Kidul regency. It is recommended that health workers enhance their efforts to educate the community on stunting prevention.

Keywords: Health Education; Mothers; Stunting; Toddlers.

INTRODUCTION

Stunting remains an unresolved nutritional issue, particularly affecting the first 1,000 days of life, from the fetal stage to 23 months old, impacting a child's intelligence and health. Globally, approximately 21.3% or around 144 million children under five suffer from stunting (United Nations Children's Fund, 2020). Stunting becomes a public health concern when the prevalence exceeds 20% (United Nations Children's Fund, 2021).

In Indonesia, the 2018 Basic Health Research reported a stunting prevalence of 24.4%. The 2022 Indonesian Nutrition Status Survey indicated fluctuating rates, with underweight prevalence rising slightly by 0.1% from 17.0% to 17.1%, while stunting incidence fell by 2.8%, from 24.4% to 21.6%. Wasting prevalence, however, increased by 0.6%, from 7.1% to 7.7%. The president of Republic of Indonesia has set a target for stunting rates to fall below 14% by 2024 (Ministry of Health of the Republic of Indonesia, 2022).

Yogyakarta Special Region Province ranked third nationally for the lowest nutrition surveillance monitoring in 2021, with a stunting rate of 17.3% among children under five. Gunung Kidul regency had the highest stunting rate in the province, with 15.7% of children affected (Health Office of Gunung Kidul Regency, 2022).

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In Gunung Kidul, the stunting rate decreased from 17.94% in 2019 to 17.43% in 2020. The Patuk, Ponjong, and Semanu public health center areas improved from the yellow category (20-28% stunting) to the green category (<20%), while the Panggang, Paliyan, Tepus, and Rongkop areas moved from green to yellow. In Tepus Sub-district, Sumberwungu Village, 27% of children under five were underweight, 31.1% were stunted, and 2.7% were wasted, indicating that nutritional problems in the area remain above normal limits, requiring more serious interventions (Health Office of Gunung Kidul Regency, 2023).

The nutritional status of children under five serves as an indicator of human resource quality, aligning with the goals of the national medium-term development plan in the health sector, which aims to reduce stunting rates using community nutrition performance measures (United Nations Children's Fund, 2020). Nutritional issues are influenced by both direct and indirect factors. Direct causes include infectious diseases and unbalanced diets, while indirect causes are related to poor sanitation, limited food availability, and insufficient parental care (Calista & Sayekti, 2021).

Parents, especially mothers, play a key role in ensuring children receive proper nutrition. Adequate nutritional knowledge enables parents to make balanced dietary choices for their children. Understanding nutrition impacts food preferences, which in turn affects children's growth and development. Family education is crucial as it directly influences children's health outcomes.

Sumberwungu village in Tepus, Gunung Kidul was chosen for the study due to ongoing nutritional issues among children, particularly stunting. The study aims to assess the effectiveness of health education on stunting and hopes to raise community awareness, improve behavior, and reduce the incidence of stunting, ultimately improving children's health in the area.

RESEARCH METHOD

A quantitative study using a one group pretest-posttest design. The population and sample of this study consisted of all mothers with children aged 1-5 years in Sumberwungu village, Tepus sub-district, Gunung Kidul regency, totaling 35 people. The sampling technique used in this study was a non-probability sampling method.

The primary data in this study is the mothers' level of knowledge about stunting, which was collected through a questionnaire consisting of 20 statements with two answer choices, true and false. The questionnaire covered the definition of stunting, causes, prevention, and impacts of stunting. The accumulated knowledge score, with a range of 0-100 points, was categorized as follows: ≤55 = poor, 56-75 = moderate, and ≥76 = good.

Secondary data used included age, education, occupation, and information about stunting. The intervention involved health education counseling and the distribution of leaflets related to stunting, provided by experts in the field. The counseling took the form of a 60-minute lecture given every three days. The questionnaire responses before the intervention served as pre-test data, and the responses after the intervention served as post-test data. Univariate analysis was conducted using a simple paired t-test to examine the effect of health education on mothers' knowledge about stunting. The study was conducted over one month.

This study has received approval and recommendation from the Research Ethics Committee of the Kartika Eka Paksi Foundation, Universitas Jenderal Achmad Yani Yogyakarta, with the number: SKep/5/KEP/1/2024, dated January 7, 2024.

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RESEARCH RESULTS

Table 1. Characteristic of the Participants (N=35)

Variables	Result
Age (n/%)	
(Mean±SD) (Range) (Year)	(30.2±5.05)(20-41)
20-35 years old	30/85.7
≥ 36 years old	5/14.3
Education (n/%)	
Elementary	6/17.1
Junior high	15/42.9
Senior high	12/34.3
College	2/5.7
Occupation (n/%)	
Private sector employee	1/2.9
Self-employed	1/2.9
Housewife	31/88.5
Others	2/5.7
Have a Health Information (n/%)	
Yes	23/66.7
Never	12/34.3
Knowledge About Stunting Pre-test (n/%)	
Poor	10/28.6
Moderate	14/40.0
Good	11/31.4
Knowledge About Stunting Post-test (n/%)	
Poor	0/0.0
Moderate	14/40.0
Good	21/60.0

Table 1 shows the characteristics of the participants, with an average age of 30.2 and a standard deviation of 5.05, within an age range of 20–41 years. The majority of participants had a junior high school education, with 15 individuals (42.9%), while most were housewives, totaling 31 (88.5%). Regarding information about stunting, most participants (23 individuals or 66.7%) had prior knowledge. In the pre-test, the majority of participants (14 individuals or 40.0%) had a moderate level of knowledge about stunting, whereas in the post-test, most participants (21 individuals or 60.0%) showed a good level of knowledge.

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Table 2. Health Education on Mothers' Knowledge (N=35)

Variables	Health Education (Mean±SD)	*p-value*
Knowledge About Stunting		
Pre-test	13.34±2.461	0.000
Post-test	15.74±1.721	
**Paired t-test*		

Table 2 shows that the paired t-test for stunting knowledge in connection with health education yielded a p-value of 0.000.

DISCUSSION

The first factor significantly influencing mothers' knowledge about stunting is age. Most mothers fall within the 20-35 age range, where they are more capable of receiving and seeking information about stunting. As people age, their thinking matures, enhancing their ability to acquire knowledge. Age plays a critical role in a person's capacity to think and learn, with cognitive abilities and knowledge increasing over time (Budimansyah, Hood, & Nurulpaik, 2018). A statistical test using Chi-Square showed a significant correlation between the mother's age and knowledge of stunting (p-value = 0.043), suggesting that maternal age affects their understanding of stunting (Nursa'iidah, & Rokhaidah, 2022).

Another important factor is educational background, which has a strong impact on knowledge levels. The relationship between education and maternal knowledge about stunting was confirmed by a p-value of 0.003. This highlights how education plays a crucial role in shaping knowledge about stunting (Nursa'iidah et al., 2022).

Occupation also influences mothers' knowledge of stunting. However, for housewives, access to information may be more limited compared to those in other jobs, as they may miss out on work-related or social sources of information. Despite this, statistical analysis found no significant correlation between occupation and mothers' knowledge of stunting, with a p-value of 0.191 (Nursa'iidah et al., 2022).

A key factor in knowledge acquisition is exposure to information about stunting. Most participants (66.7% or 23 mothers) had not previously received information on the subject. Regular access to information significantly improves understanding (Hinonaung, Mahihody, & Wuaten, 2021), and a mother's knowledge of stunting is closely linked to the information she receives about it (Rahmandiani, Astuti, Susanti, Handayani, & Didah, 2019). Health workers are one of the primary sources from which mothers can learn about stunting (West et al., 2018).

One effective approach researchers can take to improve mothers' knowledge about stunting is to implement and provide health education activities. Health education combines elements of biology, environment, psychology, physics, and medicine to promote health and prevent disease, disability, and premature death through voluntary behavior changes supported by educational efforts (Rieck & Lundin, 2023). In addressing the ongoing issue of stunting in Indonesia, researchers can offer counseling as a method to enhance knowledge, regardless of the participants' educational background. In this study, PowerPoint presentations and leaflets with information about stunting served as educational media.

The impact of health education on maternal knowledge was significant, as indicated by a statistical test showing a p-value <0.001 and a median difference of 15.6. After receiving health education, 41 mothers (78.85%) showed improved knowledge (post-test > pre-test), 9 mothers maintained the same level of knowledge (post-test = pre-test), and 2 mothers (3.85%) had decreased knowledge (post-test < pre-test). This suggests that health education effectively increased maternal knowledge about stunting (Angraini, Pratama, & Oktaria, 2023).

Table 2 reveals that health education significantly

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influenced maternal knowledge about stunting, with a p-value of 0.000 (<0.05). Prior to the intervention, the average knowledge score of mothers was moderate (40.0%), whereas after the intervention, it improved to good (60.0%). To further enhance knowledge, it is crucial to provide accurate and relevant counseling about stunting. Involving midwives can play a significant role in educating not just mothers, but also families, community leaders, and the broader community. Effective counseling is expected to raise awareness and reduce the prevalence of stunting in children (Arif et al., 2023).

Health education has proven to be influential in increasing maternal knowledge about stunting. Statistical analysis of 30 mothers with stunted children showed that their knowledge score increased from 5.60 (SD 1.221) before the intervention to 10.77 (SD 1.524) after the intervention (Ginanjar, Anggraini, & Dekawaty, 2022).

CONCLUSION

Health education is the most dominant factor and has a significant influence on the mother's level of knowledge about stunting.

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