Universitas Ahmad Dahlan Public Health Conference (UPHEC)
https://seminar.uad.ac.id/index.php/uphec/index
Volume December 2024

The Effectiveness of Health Education in Improving Perceptions of Community Stunting Prevention

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ARTICLE INFO

Article history:
Received Oct 04, 2024
Revised Oct 18, 2024
Accepted Oct 20, 2024

Keywords
Education;
Experimental;
Stunting;

ABSTRACT

Background: Stunting was a type of development failure in toddlers caused by chronic dietary deficits during the first 1,000 days of life (DDL), which had a severe influence on long-term health. The global prevalence of stunting fell from 33% in 2000 to 23% in 2022. In Indonesia, the prevalence of stunting fell from 24,4% in 2021 to 21,6% in 2022, albeit being over the 14% objective. The purpose of this study was to assess the impact of health education delivered through lectures in enhancing understanding of stunting prevention. Health education needs to be carried out to prevent stunting because public knowledge in preventing stunting is still low and stunting cases are still high in Gunung Kidul.
Method: The research employed a pre-experimental one-group pre-test post-test design in Village Cremo and Candi, Tegalrejo, involving 50 families with children aged 0 to 5 years. Comprehensive sampling methodologies were employed. Lectures were utilised for educational purposes, and data were analysed using the Wilcoxon test.
Results: The findings indicated that the predominant age group of respondents (26%) was between 36 and 45 years, and 52% had attained a high school education. Before the intervention, 74% of respondents held negative impressions, which decreased to 52% after the intervention. The Wilcoxon test indicated a significant difference between pre-test and post-test perceptions of stunting prevention (p-value = 0.003). The mean perception score rose from 78.82 (pre-test) to 82.90 (post-test), demonstrating the efficacy of health education in enhancing comprehension of stunting prevention.
Conclusion: Health education effectively improved community awareness on stunting prevention. To enhance efficacy, it is advisable to integrate the lecture style with audiovisual media and demonstrations. Periodic assessments are essential for optimal outcomes.

1. Introduction

Stunting is a condition that causes children to be unable to grow and develop properly due to chronic malnutrition, especially in the first 1,000 days of life. A stunted child is defined as a child whose height or length is below the national standard (1). This is one of the most serious cases of malnutrition in Indonesia and can affect children's development and health in the long run (2), (3).

Stunting is expected to continue to impact at least 30% of children in 28 countries, with an estimated 22.3% of children under the age of five suffering number of children affected by stunting is predicted to decrease from 204.2% million to 148.1% million between 2000 and 2022, with the prevalence of the condition expected to fall from 33% to 23% (4). In Indonesia, the stunting rate will drop from 24.4% in 2021 to 21.6% in 2022 (5). However, this percentage is still far from the reduction target of 14% (6).

In Indonesia, the prevalence of stunting will reach 12.9% by 2023, while the prevalence of severe stunting is 5.4% in children aged 0-23 months (1). The prevalence of stunting in the Special Region of Yogyakarta (DIY) has continued to decline since 2018, from 21.41% to 16.4% in 2022 (7). The decline in prevalence was also seen in Gunungkidul Regency, where the rate was reduced by 1.3% from 23.5% in 2022 to 22.2% in 2023 (8). However, in Tegalrejo sub-district, the number of stunting cases increased from 86 cases in 2023 to 119 cases in 2024 (9).

Numerous factors, such as gender, maternal education level, vaccination history, and bottle-feeding, can influence stunting (10). Other contributing factors include maternal knowledge about exclusive breastfeeding, parenting, nutritional intake, low birth weight, environment sanitation, antenatal check-ups, health worker visits, and family financial status 911), (12). In addition, factors including as weight gain during pregnancy, nutritional status, birth spacing, and infectious disease can affect the prevalence of stunting (13).

Children who are stunted may face difficulties in the development of gross motor skills (14). Stunting can also have an impact on dental health by lowering the number of permanent teeth, postponing tooth emergence, and raising the risk of early childhood caries (15). The impact of stunting can continue into adolescence, anxiety and fear, which can hinder their ability to survive and plan for the future. Health education needs to be carried out to prevent stunting because public knowledge in preventing stunting is still low and stunting cases are still high in Gunung Kidul. (16).

Health education is an important component of stunting prevention and control efforts in Indonesia because health education can help change behaviors that cause stunting (17), (18). To increase knowledge about stunting prevention, one method that can be used is the lecture method. The lecture method, as a method of delivering information orally, allows people to understand the material better (19), (20). This method can increase mothers' knowledge and attitudes towards stunting prevention, resulting in positive behavioral changes (21).

Tegalrejo urban village faces the challenge of stunting, with the number of cases increasing from 86 cases in 2023 to 119 cases in 2024 (9). This increase in the number of cases indicates the need for more effective interventions to address the problem. In urban areas, stunting cases are more numerous because the average understanding of stunting prevention is still low, access to information is limited, and nutritional adequacy is difficult to fulfill Lecture-based health education can play an important role in improving community understanding of the importance of good nutrition and stunting prevention practices (19), (21). This study aims to evaluate the effectiveness of a health education program in improving community perceptions of stunting prevention in Tegalrejo Village.

2. Method

This study used a pre-experimental approach with a one-group pre-test-post-test design, which aims to evaluate changes in community perceptions of stunting prevention after being given a health education intervention. This research was conducted on August 7-8 2024, in Cremo Hamlet and Candi Hamlet, Tegalrejo Village, Gendangsari Sub-district, Gunungkidul Regency. The population in this study consisted of households with toddlers aged 0-5 years. This sampling approach used was total sampling, where the survey was conducted on the entire population that met the inclusion criteria. The number of samples collected in this study was 50 people. The educational intervention was provided through a specially designed lecture method to increase community understanding of stunting prevention. Data was collected using a survey administered before and after the intervention to assess changes in perception. The cut-off value used is categorized as good if the value is greater than or

equal to 80. The Wilcoxon test was used to test the difference between pre-test and post-test result, as the data collected was not normally distributes.

3. Result

The The results obtained in implementing the intervention include the characteristics of respondents and statistical tests of the effectiveness of the intervention carried out.

Table 1. Respondent Characteristic

Category	n	%
Age (Years)		
17-25	3	6
26-35	7	14
36-45	13	26
46-55	10	20
56-65	10	20
>65	7	14
Gender		
Male	13	26
Female	37	74
Education		
Not in School	2	4
SD	8	16
SMP	7	14
SMA	26	52
College (D3-S1)	7	14
Perception Level (Pretest)		
Bad	37	74
Good	13	26
Perception Level (Posttest)		
Bad	26	52
Good	24	48

According to Table 1 which describes the characteristics of respondents, the majority of respondents were between 36 and 45 years old, with 37 women (74%). A total of 26 people (52% of respondents) have a high school education. Before the intervention (pertest), the majority of respondents had a poor level of perception as many as 37 people (74%), but after the intervention (posttest), there was a change with the majority of respondents having a poor perception of 26 people (52%).

Table 2. Data Normality Test Result

Category	Sig Value.	Description
Postetst-Pretest Difference	0.000	Data is not normally distributed

According to Table 2, the data normality test results in a significance value (Sig) of 0.000 which indicates that the data is not normally distributed. The Wilcoxon test used the assumption of normality is not met.

Table 3. Test Result of the Effectiveness of Health Education in Improving Perceptions of Stunting Prevention

Category	Negatif Ranks	Positive Ranks	Ties	Mean		p-value
				Pretest	Posttest	
Postetst-Pretest	4	24	4	78.82	82.90	0.003

According to Table 3, the results of the analysis show that there were 4 respondents who experienced a decrease in perception (negative ranks), 24 respondents who experienced an increase in perception (positive rank), and 4 respondents who experienced no change in perception (ties). The average pretest perception score was 78.82, while the average posttest perception score increased to 82.90, resulting in a mean difference of 4.08. the p-value is 0.003, which indicates there is a significant difference between pretest and posttest stunting prevention perceptions. With an increase in the average perception score to 4.08 after the intervention, it can be said that health education succeeded in improving perceptions of stunting prevention.

4. Discussion

This study was found that health education is effective in improving perceptions of stunting prevention, indicated by a p-value (0.003) < α, as well as an increase in the average perception score before and after the intervention. The average pretest perception score was 78.82, while the average posttest perception score increased to 82.90, with a mean difference of 4.08. the results of the analysis showed that before the intervention (pretest), the majority of respondents had a poor level of perception, with a total of 37 people (74%). After the intervention (posttest), there was a significant change where the number of respondents with poor perception decreased to 26 people (52%). This change indicates an improvement in respondents' perceptions of stunting prevention after health education.

Children with stunting have a shorter height than the average child of their age because chronic malnutrition inhibits growth and development (22). Malnutrition in children from the womb and in the early years of life can lead to stunting. Children's long-term health and development, especially their ability to reach full height and develop their brains, can be affected by stunting (2), (23).

Stunting prevention efforts in Indonesia involve strategies, including health education, which has been shown to be effective in improving knowledge and attitudes regarding stunting prevention (17), (24). Nutrition health promotion programs in early childhood play an important role in reducing the prevalence of stunting by improving nutritional status and addressing associated social and economic factors (24), (25).

The health education method in this study was lecture. Lectures are an effective and economical technique of delivering information orally to large groups. It allows the delivery of complex material in a structured manner, helps participants understand the topic better and provides different perspectives. In addition, lecture can stimulate thinking and deepen understanding. The challenge of using this method is that the location is far from access, and the community has very dynamic activities so not all people can attend this activity. (20), (26).

Based on previous research, it is known that lectures accompanied by presentation media, such as PowerPoint, are beneficial in increasing participants' knowledge and attitudes towards stunting prevention (27). Health education provided by health workers was shown to significantly increase community understanding and awareness of stunting, and highlighted the important role of health workers in stunting prevention strategies (28). In addition, health education applied to parents can increase their knowledge, which further contributes to stunting prevention efforts in preschool children (29). Previous studies have shown that the lecture, brainstorming, and demonstration (CBD) method greatly improves mother' attitudes and knowledge about stunting prevention and results in good behavior change (21).

Mothers who lack knowledge about stunting often do not know the causes, symptoms, and ways to prevent it, so the preventive measure taken are not appropriate (21). Knowledge about stunting can affect individual perceptions and responses to handling it (30). Misunderstandings and lack of understanding about stunting can lead to inadequate prevention and treatment efforts (30), (31). Mothers with higher levels of knowledge tend to be more aware of effective preventive measures, such as proper feeding practices, regular health checks, and environmental sanitation. This awareness can have a positive impact on their perception of the effectiveness of these measures in preventing stunting (30), (32).

Micronutrient deficits such as zinc, iron, calcium, and vitamin A are common in stunted children, so micronutrient supplementation is an effective treatment for stunting. It has been shown that taking these micronutrient supplements can lengthen the femur of the fetus and prevent stunting (33). Stunting can also be decreased by enhancing access to basic amenities like clean drinking water, sanitary facilities, and appropriate waste disposal (34).

5. Conclusion

According to the study's findings, health education through lectures is effective in improving perceptions of stunting prevention, with the average perception score increasing from 78.82 to 82.90 after the intervention. Before the intervention, the majority of respondents had poor perceptions, but after the intervention, the number of respondents with poor perceptions decreased significantly. To increase the effectiveness of education, the lecture method can be combined with video and demonstration media. Video media is engaging and memorable, while demonstrations facilitate hands-on understanding. In addition, regular evaluations are needed to improve better results in stunting prevention.

Acknowledgment

Thank you to the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia for the multi-year PKM grant for the Assisted Village Empowerment scheme, Ahmad Dahlan University and partners in Tegalrejo Sub-district Gedangsari, Gunungkidul Regency.

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