

The Effect of Peer Support Group Method Stunting Prevention Education on Mothers' Knowledge and Children's Nutritional Status in Benculuk Village, Cluring District, Banyuwangi

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ARTICLE INFORMATION

Article history
Received (28 April 2024)
Revised (10 May 2024)
Accepted (1 Juli 2024)

Keywords
Peer Support Group, Stunting,
Knowledge, Child Nutritional
Status

ABSTRACT

Introduction: Stunting is still a problem that often occurs in toddlers, Lack of understanding about nutrition and stunting in mothers can increase the risk of stunting. One of the steps that can be taken to reduce cases of stunting is to spread knowledge about stunting evenly to mothers.

Objectives: Determine the effect of providing stunting prevention education to mothers of toddlers using the peer support group method on maternal knowledge and children's nutritional status.

Methods: This research is included in Quasi Experimental research with a pretest posttest non-equivalent control group design. The research method used is stunting education using the peer support group method. The research population was mothers who had toddlers aged 7-24 months in Benculuk Village, Cluring District, Banyuwangi Regency. Sampling technique. Purposive sampling technique. The sample size was 60 respondents consisting of 30 people in the experimental group and 30 people in the control group. Univariate data analysis using frequency distribution tables, bivariate analysis using the Wilcoxon test, Mann Whitney test and ordinal regression test.

Results: The statistical test results showed a decrease from the intercept only model to the final, namely 27.349 to 10.715 with a difference of 16.630, which means there is a real influence with the presence of the independent variable. If we look at the significance value, there is a significant influence between stunting prevention education using the peer support group method on maternal knowledge and children's nutritional status because the significance value obtained is $0.005 < 0.05$.

Conclusions: Evaluation after providing education, more increase efforts to prevent stunting so that the stunting rate does not increase by consistently providing education about stunting.

Introduction

Stunting or what is often referred to as growth retardation is a condition in which children under the age of five (toddlers) experience growth constraints due to lack of adequate nutritional intake and frequent infections, especially during the first 1000 days of their lives, from the time of the fetus to reach the age of 23 months. A child is considered to be stunted if his or her length or height is two standard deviations below the average for children of the same age (Kementrian koordinator bidang pembangunan manusia dan kebudayaan, 2018).



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According to UNICEF, in 2020, the number of stunted children under the age of five was around 149.2 million, a decrease of 26.7% compared to 2000, when the number reached 203.6 million. In the announcement made by the Ministry of Health in the results of the Indonesian Nutrition Status Survey (SSGI) during the BKKBN National Working Meeting, it was seen that the prevalence of stunting in Indonesia had decreased from 24.4% in 2021 to 21.6% in 2022 (UNICEF, 2020)

In 2023, the Banyuwangi District Health Service has a target to reduce the stunting rate by 17% and make maximum efforts to prevent stunting. Based on data reported by the Banyuwangi Health Service in 2022, the stunting rate in Banyuwangi reached 20.1%, showing a decrease compared to 2021 which reached 24%. The number of children experiencing stunting in 2022 will reach 4,371 individuals, but according to the latest data from the Banyuwangi Health Office, this figure fell to 2,704 individuals at the beginning of the year, indicating a significant decline of almost 50%. In July 2023, it was stated that the highest stunting rate was in the Benculuk Community Health Center Working Area with a total of 247 stunted children. And Benculuk Village is the village with the highest stunting rate in the Benculuk Health Center working area with a total of 66 stunted children. Banyuwangi Regency remains committed to preventing and controlling increasing levels of stunting, especially during pregnancy and the first thousand days of life, because this is a period that is vulnerable to stunting in prospective children. Prevention efforts are much more effective than dealing with cases of stunting that have already occurred in children, because stunting is irreversible. This means that brain development occurs in children from the age of zero to two years. If we can protect children during this period, they will experience optimal growth (Indonesia, 2023).

It is important to continue optimizing the prevention and reduction of stunting cases, as this has significant impacts both in the short and long term. Short-term impacts include disruptions in brain development, decreased cognitive development, disturbances in physical growth, and disruptions in body metabolism. Meanwhile, the long-term consequences include decreased cognitive abilities and learning achievement, weakened immune system, increased risk of diseases such as diabetes, obesity, heart and vascular function disorders, cancer, stroke, and the risk of disabilities in old age. Therefore, it is important to continue focusing on efforts to prevent and reduce stunting (Saleh et al., 2021).

Lack of understanding about nutrition and stunting in mothers can increase the risk of stunting. One of the steps that can be taken to reduce cases of stunting is to spread knowledge about stunting evenly to mothers. When knowledge about nutrition and stunting is provided to women who are about to become mothers and mothers with toddlers, the effect of efforts to reduce stunting rates will be more effective. The same thing applies if a woman who is already a mother gains this understanding, they will have the knowledge to prevent their children from being at risk of stunting, whether their second child, third child, and so on. One effective strategy in overcoming stunting is implementing nutritional interventions by increasing knowledge about the First 1000 Days of Life (1000 HPK) through educational outreach (Margawati & Astuti, 2018).

The causes of stunting are influenced by several interrelated factors, one of which is poor eating patterns in children during the first two years of their life, as well as malnutrition in women before and during pregnancy (Aguayo & Menon, 2016). A mother who has poor knowledge of stunting and nutrition will affect the child's nutritional status (Ghodsi et al., 2021). An effective health education approach to prevent stunting is the Peer Support Education method (peer support education) (Euis Nurlaela, 2023), providing education using the peer support group method, which is a peer support group, an initiative where members with similar conditions share their knowledge and experiences. which aims to support each other by providing information, emotional support, and building reciprocal relationships between group members (Husain, 2019), in promoting health, the peer support education approach has proven to be the



most effective compared to various other public health efforts, through this approach, society will be more sensitive to the changes or innovations offered (Lin Khariyetni Lase et al., 2023).

Based on this phenomenon and considering the importance of the problem and impact caused by stunting, the researchers want to add something new about education with the support of family and peers to examine the effect of stunting prevention education using the peer support group method on mothers' knowledge and children's nutritional status in Benciluk Village, District. Banyuwangi Regency Cluring.

Methods

This research is classified as a Quasi-Experimental research with a pretest-posttest Non-equivalent control group design. The research method used is stunting education with the peer support group method. This research was conducted in Benciluk Village, Cluring District, Banyuwangi Regency. The research was carried out in February 2024. The duration of the study was one month with four meetings. This education was conducted with presentations using PowerPoint for all samples, followed by peer support group education for the experimental group three times during one month. In the first meeting, a pretest was given, and in the fourth meeting, a post-test was given. After being educated, small groups consisting of 5-6 people with a duration of 40-60 minutes will be formed. The population in this study is all mothers and toddlers aged 7-24 months in Benciluk Village, Cluring District, Banyuwangi Regency. The sample size for both the control and experimental groups is 30 respondents each, making a total of 60 mothers and toddlers aged 7-24 months who meet the inclusion criteria. The inclusion criteria are mothers with toddlers aged 7-24 months who are willing to be respondents and mothers with toddlers aged 7-24 months who reside in Benciluk Village, Banyuwangi Regency. The sampling technique used in this study is non-probability sampling. Data sources in this study use primary and secondary data, and data collection techniques use questionnaires. Univariate data analysis and bivariate analysis with Wilcoxon test, Mann-Whitney test, and ordinal regression test are employed.

Results

1. General Characteristics of Respondents

Tabel 1 Frequency Distribution of Respondent Characteristics Between the Experimental Group and the Control Group.

External Variables	Group			
	Experiment		Control	
	N	%	N	%
Mother's Age				
< 20 years	3	10.0	4	13.3
20-35 years	22	73.3	21	70.0
> 36 years old	5	16.7	5	16.7
	30	100	30	100
Education				
Elementary school	1	3.3	2	6.7
Junior high school	11	36.7	11	36.7
Senior high school	15	50.0	14	46.7
College	3	10.0	3	10.0
	30	100	30	100
Work				
Housewife	22	73.3	23	76.7
Private	5	16.7	4	13.3



Self-employed	3	10.0	3	10.0
	30	100	30	100
Usia Anak				
< 12 months	2	6.7	3	10.0
12-18 months	14	46.7	12	40.0
> 18 months	14	46.7	15	50.0
	30	100	30	100

According to Table 1, the external variable of maternal age shows that

almost all respondents were aged 20-35 years, with 22 respondents comprising 73.3% in the experimental group and 21 respondents comprising 70.0% in the control group. Educational characteristics indicate that the majority of respondents in the experimental group had completed high school education, with 15 respondents comprising 50.0%, while in the control group, 14 respondents comprising 46.7% had completed high school education. Employment characteristics show that the majority of respondents in the experimental group were unemployed or homemaker, with 22 respondents comprising 73.3%, and in the control group, 23 respondents comprising 76.7% were unemployed or homemaker. Characteristics of child age indicate that the age of respondents' children in the experimental group ranged from 12-18 months and >18 months, with 14 respondents comprising 46.7%, while in the control group, the majority of respondents' children were >18 months old, with 15 respondents comprising 50.0%.

Table 2 Test of Differences in Respondent Characteristics in Experimental Group and Control Group

External Variables	Group				Nilai Sig.	CI 95%	
	Experiment		Control			Lower	Upper
	N	%	N	%			
Mother's Age					1.0	-.269	.269
< 20 years	3	10.0	4	13.3			
20-35 years	22	73.3	21	70.0			
> 36 years old	5	16.7	5	16.7			
	30	100	30	100			
Education					0.586	-.316	.450
Elementary school	1	3.3	2	6.7			
Junior high school	11	36.7	11	36.7			
Senior high school	15	50.0	14	46.7			
College	3	10.0	3	10.0			
	30	100	30	100			
Work					0.795	-.310	.377
Housewife	22	73.3	23	76.7			
Private	5	16.7	4	13.3			
Self-employed	3	10.0	3	10.0			
	30	100	30	100			
Usia Anak					0.567	-.335	.335
< 12 months	2	6.7	3	10.0			
12-18 months	14	46.7	12	40.0			
> 18 months	14	46.7	15	50.0			
	30	100	30	100			

Based on table 2, the characteristics of age, education, employment and children's ages are evenly distributed in the experimental and control groups, as evidenced by the results of the P value statistical test (>0.05).



2. Mothers' Knowledge about Stunting Prevention Before and After Being Provided with Education Using the Peer Support Group Method in the Experimental Group and Control Group.

Table 3 Results of Wilcoxon Test Analysis of Mothers' Pretest and Posttest Knowledge Levels in the Experimental Group and Control

Mother's Knowledge	N	Positive Ranks	Ties	Negative Ranks	Sig(2-tailed)
Experimental Group	30	23	6	1	.000
Control Group	30	15	13	2	.002

Based on table 3, the results of the Wilcoxon test analysis show that there were 30 respondents in the experimental group and 30 respondents in the control group with the results that mothers' knowledge about stunting prevention had increased more than before. The results of the Wilcoxon signed ranks test showed a significance value of 0.000 and 0.002, which was smaller than 0.05, so it was concluded that there was a significant influence after education was carried out using the peer support group method.

Table 4 Results of Mann-Whitney Test Analysis of Mother's Pretest and Posttest Knowledge in the Experimental Group and Control Group

Knowledge	Man Whitney	Z	Asymp.Sig. (2-tailed)	Keterangan
Posttest	279.500	-2.896	.004	There are significant differences

Based on table 4, the results of the Mann-Whitney test analysis show that the value of Asymp.Sig. (2-tailed) of $0.004 < 0.05$. So it can be concluded that the hypothesis is accepted, thus it can be said that there is a difference in knowledge between the experimental group and the control group.

3. Nutritional Status of Children Before and After Giving Education to Mothers Using the Peer Support Group Method in the Experimental Group and Control Group.

Table 5 Results of Wilcoxon Test Analysis of Pretest and Posttest Children's Nutritional Status in the Experimental Group and Control Group

Child Nutritional Status	N	Positive Ranks	Ties	Negative Ranks	Sig(2-tailed)
Experimental Group	30	10	19	1	.007
Control Group	30	2	28	0	.157

Based on table 5, the results of the Wilcoxon test analysis show that there were 30 respondents in the experimental group and 30 respondents in the control group. In the experimental group, the results of children's nutritional status improved more than before. The results of the Wilcoxon signed ranks test show a significance value of 0.007. In the experimental group, the significance value was smaller than 0.05, so it was concluded that there was a significant influence between before education was carried out and after education was carried out using the peer support group method. Meanwhile, in the control group, the



significance value of 0.157 was greater than 0.05, so it was concluded that there was no influence between before and after education was carried out in the control group.

Table 6 Mann-Whitney Test Calculation Results for pretest and posttest nutritional status of children in the Experimental Group and Control Group

Knowledge	Man Whitney	Z	Asymp.Sig. (2-tailed)	Information
Posttest	358.500	-1.833	.067	There is no significant difference

Based on table 6, the results of the Mann-Whitney test analysis show that the value of Asymp.Sig. (2-tailed) of 0.067 > 0.05. So it can be concluded that the hypothesis is rejected, thus it can be said that there is no difference in the nutritional status of children between the experimental group and the control group.

4. The Effect of Peer Support Group Method Stunting Prevention Education on Mothers' Knowledge and Children's Nutritional Status in Benculuk Village, Cluring District, Banyuwangi Regency.

Table 7 Effect of peer support group method of stunting prevention education on maternal knowledge and children's nutritional status

Model	-2 Log Likelihood	Chi- Square	df	Sig.
Intercept Only	27.345			
Final	10.715	16.630	5	0.005

Based on table 7, it can be found that there was a decrease from the intercept only model to the final, namely 27.349 to 10.715 with a difference (Chi-square value) of 16.630, which means there is a real influence with the presence of the independent variable. If we look at the significance value, there is a significant influence between stunting prevention education using the peer support group method on maternal knowledge and children's nutritional status because the significance value obtained is 0.005 < 0.05.

Discussion

1. Mother's Knowledge Before and After Being Given Education Using the Peer Support Group Method in Benculuk Village, Cluring District, Banyuwangi Regency.

Based on the research results, changes in the average knowledge of mothers in the experimental group and control group can be interpreted. A big change occurred in the experimental group, namely the average pretest score was 1.50 and the average posttest score was 2.47 with a difference in score of 0.97. In other words, the use of the peer support group method in providing education had more influence in increasing mothers' knowledge. The results of the analysis of the Wilcoxon signed ranks test showed that there were 30 respondents in the experimental group and 30 respondents in the control group with the results that mothers' knowledge about stunting prevention had increased more than before. The results of the Wilcoxon signed ranks test showed a significance value of 0.000 and 0.002, which was smaller than 0.05, so it was concluded that H_a was accepted, meaning that there was a significant influence between before education was carried out using the peer support group method. Based on the Mann-Whitney test analysis, it is known that the value of



Asymp.Sig. (2-tailed) of $0.004 < 0.05$. So it can be concluded that the hypothesis is accepted, thus it can be said that there is a difference in knowledge between the experimental group and the control group. The results of the Mann-Whitney test analysis show that the value of Asymp.Sig. (2-tailed) of $0.004 < 0.005$. So it can be concluded that the hypothesis is accepted, thus it can be said that there is a difference in knowledge between the experimental group and the control group.

The results of this study are supported by research (Liu et al., 2018) which shows that there was an increase in the average (mean) knowledge of mothers before class intervention of 18.8 and the p-value was obtained from the paired t-test with a significance value of 0.000 (p-value < 0.05) so H_0 is rejected, meaning that there is a significant increase in knowledge about stunting prevention before and after the intervention is given.

Education is carried out with various objectives, including improving health, preventing disease and injury, improving or restoring health conditions, and increasing abilities in dealing with health problems through empowerment. Health education has a major impact on understanding and practice. Therefore, providing education to parents is very important (Waliulu et al., 2018).

An effective health education approach to prevent stunting is the Peer Support Education method (Euis Nurlaela, 2023), providing education using the peer support group method, which is a peer support group, an initiative where members with similar conditions share knowledge and experience. those who aim to support each other by providing information, emotional support, and building reciprocal relationships between group members (Husain, 2019).

The research results showed that the implementation of the Peer Support Group method significantly increased mothers' knowledge about stunting prevention. Knowledge is a basic thing that must be understood by mothers, especially those with toddlers. Stunting is still a special concern, especially as the results of this study also stated that only 63.3% of respondents had good knowledge about stunting. Special attention is needed and there is a need for educational programs for the community around the Benculuk Village.

2. Nutritional Status of Children Before and After Giving Education to Mothers of Toddlers Using the Peer Support Group Method in Benculuk Village, Cluring District, Banyuwangi Regency.

Based on the research results, it can be interpreted that there is a change in the average nutritional status of children in the experimental group and control group. A big change occurred in the experimental group, namely the average pretest score was 2.60 and the average posttest score was 2.90 with a difference in value of 0.30. In other words, the use of the peer support group method in providing education had more influence in increasing mothers' knowledge so that children's nutritional status improved compared to the group. control. The results of the analysis of the Wilcoxon signed ranks test showed that there were 30 respondents in the experimental group and 30 respondents in the control group. In the experimental group, the results of children's nutritional status improved more than before. The results of the Wilcoxon signed ranks test show a significance value of 0.007. In the experimental group, the significance value was smaller than 0.05, so it was concluded that there was a significant influence after providing education using the peer support group method to the mother so that the mother's knowledge increased and influenced the improvement in the child's nutritional status. The results of the Mann-Whitney test analysis show that the value of Asymp.Sig. (2-tailed) of $0.067 > 0.05$. So it can be concluded that the hypothesis is rejected, thus it can be said that there is no difference in the nutritional status of children between the experimental group and the control group.



The results of this research are supported by research conducted by (Jamila, 2024) from the results of research conducted on the nutritional status of toddlers, the highest nutritional status of toddlers was obtained, namely normal nutritional status, 43 people (81.1) out of 53 toddlers. The results of this research are in line with research conducted by Lilis Yuliarsih (2019). Based on the research results, it can be seen that the majority of mothers who have toddlers have a good level of knowledge (72.4%), while some mothers with a poor level of knowledge have toddlers with good nutritional status (57.9%).

Nutritional status is a representation of a balanced condition in the form of certain variables, or a manifestation of nutritional adequacy in the form of certain variables. Nutritional status is an indicator of success in providing nutrition to children, which is reflected in their weight and height. Apart from that, nutritional status also refers to the health condition that arises from the harmonization of nutritional needs and intake. Research on nutritional status involves measurements based on anthropometric data (Khairunnisa, 2022).

Discussion and exchange of information in these groups can provide mothers with a better understanding of the importance of balanced nutrition for children's growth and development and also for preventing stunting. Mothers with good knowledge will produce normal nutritional status in toddlers, and vice versa, if the mother's knowledge is lacking then experience regarding practices to meet the needs of her children will also be lacking so it will result in many children with short nutritional status. So it is necessary to provide regular education to mothers about preventing stunting and about balanced nutrition which is really needed by toddlers to grow and develop optimally.

3. Analysis of the Effect of Peer Support Group Method Stunting Prevention Education on Mothers' Knowledge and Children's Nutritional Status in Benculuk Village, Cluring District, Banyuwangi Regency.

Based on the ordinal regression test, it was found that there was a decrease from the intercept only model to the final model, namely 27.349 to 10.715 with a difference (Chi-square value) of 16.630, which means there is a real influence with the presence of the independent variable. If we look at the significance value, there is a significant influence between stunting prevention education using the peer support group method on maternal knowledge and children's nutritional status because the significance value obtained is $0.005 < 0.05$. The conclusion is that there is a significant influence on increasing maternal knowledge and children's nutritional status after being given stunting prevention education using the peer support group method in Benculuk Village, Cluring District, Banyuwangi Regency.

Increased knowledge regarding correct and appropriate nutritional status, as well as positive changes in attitudes towards improving nutritional status in children. Through education, mothers have the opportunity to understand more deeply the importance of providing nutritional status that is appropriate to the development of toddlers. This is very important considering that nutritional status during the toddler years requires serious attention from parents, because malnutrition during this period can cause irreparable damage. One indicator of ongoing malnutrition in toddlers is stunted body growth, which can be observed by measuring height, weight and head circumference using WHO-NCHS standards. Inadequate nutritional conditions can have a negative impact on a child's physical and mental development, especially during the phase of rapid brain development that occurs between the ages of 30 weeks to 18 months. Therefore, it is important for parents to understand and monitor their children's nutritional status regularly to ensure optimal growth and development (Afrika et al., 2022).

Mothers of toddlers who have a good understanding of nutrition tend to have toddlers who do not experience stunting. Researchers believe that this is due to the fact that maternal



nutritional knowledge is one of the indirect factors that contributes to the incidence of stunting. Mothers who have a good understanding of nutrition are more aware of the risks if their children do not get enough nutrition and understand the benefits of providing adequate nutrition for their growth. They are also better able to serve nutritious food to their children, potentially reducing the risk of nutritional deficiencies. Lack of nutrition is one of the main risk factors for stunting. This is in accordance with Soetjiningsih's theory which states that nutritional disorders in children, including the risk of stunting, are often caused by mothers' lack of understanding about children's nutrition (Kresnawati et al., 2022).

Knowledge is the foundation of a person's behavior. Therefore, it is important for posyandu officers to be actively and continuously involved in providing health education about stunting. They need to improve various health promotion media so that education becomes more interesting and easy to understand, such as videos, pictures, brochures, magazines, quizzes, and so on. Effective collaboration and communication between posyandu officers and the community is very necessary so that information about the importance of health, especially regarding stunting in toddlers, can be spread widely. In this way, it is hoped that the stunting rate in toddlers can be minimized.

This research has limitations, including:

1. Limitations of research variables because it only examines knowledge.
2. Research time limitations because this research lasted 1 month.

Conclusion

Based on the research that has been carried out, it can be concluded that:

1. Mothers' knowledge about stunting prevention increased significantly after being given education on stunting prevention methodspeer support groupsin Benculuk Village, Cluring District, Banyuwangi Regency.
2. The nutritional status of children improved significantly after mothers as respondents were given education on stunting prevention methodspeer support groupsin Benculuk Village, Cluring District, Banyuwangi Regency.
3. The difference in knowledge increase was more significant in the experimental group compared to the control group after being given education on stunting prevention methodspeer support groupsin Benculuk Village, Cluring District, Banyuwangi Regency.
4. The difference in nutritional status of children increased between the experimental and control groups after being provided with education on stunting prevention using the peer support group method in Benculuk Village, Cluring District, Banyuwangi Regency.
5. There is a significant influence between the mother's knowledge variable and the child's nutritional status after being given education on stunting prevention methodspeer support groupsin mothers who have toddlers in Benculuk Village, Cluring District, Banyuwangi Regency.

In research, a researcher must be able to provide something useful or beneficial for the development of science, agencies or institutions as well as various parties related to this research. After the researcher has completed the discussion in this thesis, in the closing chapter the researcher puts forward suggestions based on the results of observations in the discussion of this thesis. The suggestions that researchers give after researching this problem are as follows:

1. It is recommended that health workers such as midwives, nurses, doctors and nutritionists increase efforts to prevent stunting in their work areas so that the stunting rate does not increase by consistently providing education about stunting.



2. It is recommended that for further research there be additional variables that might also influence many things in this research, such as attitudes and behavior.
3. It is recommended that for further research, research lasts longer, such as 3 months to 6 months, to obtain maximum research results.

Ethics approval and consent to participate

The research ethics test was carried out at the Yogyakarta STIKes Guna Bangsa Health Research Ethics Commission with ethical approval Number: 020/KEPK/I/2024 on January 15 2024.

Acknowledgments

We would like to express our thanks to all parties involved and playing a role in helping carry out the research carried out.

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