

Original Research Article

IMPROVEMENT OF FEEDING PRACTICES FOR STUNTING CHILDREN UNDER TWO YEARS THROUGH AN COMPLEMENTARY FEEDING EDUCATION

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Abstract

Background: Feeding practice is one of the factors determining the stunting prevalence. It happens because the children's food intake strongly depends on the feeding practice done by their parents. The role of parents would determine children's nutritional intake, in which inappropriate nutritional intake lead to stunting.

Objectives: The aim of the study was to identify differences in the feeding practices of mothers to stunting children under two years before and after being given a complementary feeding intervention

Methods: This is a quantitative study with a quasi-experimental one group design. The samples in this study were 31 respondents selected using the consecutive sampling technique. The inclusion criteria were mothers who have children aged 6-24 months with stunting (z score PB/U is less than -2SD). Exclusion criteria were that the mother or child was sick and did not receive complete intervention. Instrument used was a standard Comprehensive Feeding Practice Questionnaire (CFPQ) instrument. The intervention provided was in the form of education using audiovisual media and a demonstration of the practice of making complementary feeding. The analysis in this research is paired T test.

Results: The average score on feeding practice for stunting Children Under Two Years after the nutrition intervention is higher, namely 112.32 compared to the average score on feeding practice for stunting Children Under Two Years before the nutrition intervention, namely 87.06. The results of the analysis found that there is a significant difference between the average score on feeding practice for stunting Children Under Two Years before and after the complementary feeding with p-value of 0.0001.

Conclusion: The complementary feeding intervention can encourage the feeding practice of stunted under-two-year-old children.

Keywords: *Complementary feeding intervention, Stunting, Feeding Practice*

INTRODUCTION

Stunting is a condition of growth failure in children under five years due to

chronic malnutrition so they are too short for their age. The estimated global malnutrition for the stunting indicator in 2020 was 149.2

million (22.0%) children under five years (WHO, 2022). The results from Indonesian Nutritional Status Study (SSGI) data in 2022 showed that the prevalence of stunting decreased from 24.4% in 2021 to 21.6% in 2022. The results from SSGI data in 2022 showed that the prevalence of stunting children under five years in the Bangka Belitung Province in 2022 was 18.5% and in Central Bangka Regency was 21.2% (Kementrian Kesehatan Republik Indonesia, 2022).

The causes of stunting are a lack of ability and understanding in caring for and feeding children, infectious diseases, infectious environments, and poverty (WHO, 2022). The results of a study (Julianti & Elni, 2020) show that other influencing factors of stunting are the history of exclusive breastfeeding, the history of infection, and the culture of feeding children. Feeding behavior in children under five years is influenced by the mother's nutritional knowledge. Mother's nutritional knowledge is one of the factors that significantly influence the incidence of stunting (Swandari, Handayani, & Mukarromah, 2017).

Casale, Desmond, & Richter (2014) state that the impact of stunting is closely related to impaired cognition, impaired physical growth, disruption to economic productivity, and non-communicable diseases. Seeing the high incidence of stunting and the magnitude of the impact it has, the role of nurses is needed in efforts to prevent and overcome stunting children. One effort is to provide a complementary feeding intervention. The existence of a culture of providing pre-lacteal feeding to newborns and providing complementary feeding for early children under five years (Illahi & Muniroh, 2016) also influences the nutritional adequacy of children which influences the incidence of stunting (Pokhrel et al., 2016). The complementary feeding intervention is a nursing intervention by providing education about complementary

feeding, feeding children, a list of household sizes, and examples of food menus. The results of a study by (Banowo & Hidayat, 2021) show that nutrition education is a superior program that can improve family feeding practices for stunting children under five years.

Parental feeding practices play an important role in shaping the eating habits of children under five years in adulthood. Good eating habits start at home. The role of family members, especially mothers, plays a very important role in setting an example of good feeding practices for children. This is because mothers have more time to be with their children, shop for groceries, and prepare food for the family (Puspa & Rahmawati, 2020). Factors influencing good feeding practices according to Unicef (Khaerunnisa et al., 2019) include the provision of sustainable complementary feeding, namely the introduction of complementary feeding, food variety, adequate nutrition, and the frequency of feeding. The research results (Hanani & Susilo, 2020) state that there is a relationship between feeding practices and the incidence of stunting. This means that the role of parents, especially mothers, is very important in meeting children's nutritional needs. The mother's role in feeding practices greatly determines the nutritional status and quality of growth and development of her toddler. Mothers who have stunted toddlers have inappropriate feeding practices, including always fulfilling the child's wishes to consume the food they want, rarely providing various nutritious foods for their toddlers in every dish served at home, allowing the child to eat any food without paying attention to whether the food is highly nutritious or not for the toddler. Therefore, an complementary feeding education is needed to improve the feeding practices for stunting children under five years.

Objective(s): The aim of the study was to identify differences in the feeding practices of mothers to stunting children under two

years before and after being given a complementary feeding intervention.

METHODS

Study Design

This is a quantitative study with a quasi-experimental one group design using pre-test and post-test without control.

Setting

This study was carried out in the locus of stunting in Melabun and Keretak Villages, Central Bangka Regency, Bangka Belitung Islands Province

Research Subject

The population in this study were all mothers who had stunting in Central Bangka Regency. The researcher determined the sample size using the sample size determination formula in paired numerical analytical research by Dahlan (2014). The samples in this study were 31 respondents selected using the consecutive sampling technique. The inclusion criteria were mothers who have children aged 6-24 months with stunting (z score PB/U is less than -2SD). Exclusion criteria were that the mother or child was sick and did not receive complete intervention.

Instruments

The data collection tool in this study was a questionnaire on feeding practices for stunting children under five years including menu preparation, ingredients processing, presentation, and method of feeding. The questionnaire on feeding practices used was a standard Comprehensive Feeding Practice Questionnaire (CFPQ) instrument introduced by Musher-Eizenman and Holub (2007) which has been modified and adapted to the conditions of Indonesian society. The researcher carried out a process of trans adaptation of cross-cultural measuring instruments which consisted of initial

translation from English to Indonesian, and back translation. After that, the researcher carried out validity and reliability tests on the instrument. This questionnaire consists of six domains, including five items for children's control over eating, 19 items for balance and variety of food types, 4 items for the environment, 4 items for examples of healthy food, 2 items for health restrictions and 4 items for eating habits.

The results of the validity test on the questionnaire obtained a value of 0.401 – 0.688. The validity value of the questionnaire on feeding practices was more than the r table (0.361), so it was concluded that the statements in the questionnaire are valid. The results of the reliability test on the questionnaire obtained a Cronbach's Alpha value of 0.945, thus this instrument was concluded as reliable.

Intervention

The procedure in this study was that researchers gave questionnaires on maternal characteristics, toddler characteristics and feeding practices to respondents before being given nutritional intervention.. The intervention provided three times were in the form of education using audiovisual media and a demonstration of the practice of making complementary feeding through FGD (group discussion forums). Audiovisual media contains educational materials about complementary feeding, a list of household sizes, and examples of food menus served 3 times a day for 1 week. Researchers gave back questionnaires on maternal characteristics, toddler characteristics and feeding practices of stunted toddlers at intervals of seven days after being given nutrition education.

Data Analysis

The analysis used in this study was bivariate. Bivariate analysis was used to see the average differences in the feeding practices of mothers to stunting Children Under Two

Years before and after being given a complementary feeding intervention. The statistical test was carried out using the dependent T-test.

Ethical Consideration

Researchers have obtained approval for passing the ethical test from the Health Research Ethics Commission at Universitas ‘Aisyiyah Yogyakarta, number 2201/KEP-UNISA/VII/2022 to protect the welfare of respondents.

RESULTS

The characteristics of the respondents consisted of the educational and income level of the mothers of stunting. Table 1 shows that of the 31 respondents, the majority of respondents had a basic education of 61.3%, and a socio-economic status above the minimum wage of 71%.

Table 1. Characteristics of Respondents

Characteristics of Respondents	Frequency (n)	Percentage (%)
Mother Education		
Uneducated person	2	6,5%
Elementary and junior high school	19	61,3%
Senior High school	9	29%
University, College	1	3,2%
Economic Status Level		
Below the minimum wage	9	29%
Above the minimum wage	22	71%

Table 2 shows that the average score on feeding practice for stunting Children Under Two Years after the nutrition education is higher, namely 112.32 compared to the average score on feeding practice for stunting Children Under Two Years before the nutrition education, namely 87.06. The results of the analysis found that there is a significant difference between the average score on

feeding practice for stunting Children Under Two Years before and after the complementary feeding intervention, with a p-value of 0.0001.

Table 2. Differences in the Average Score on Feeding Practices for Stunting Children Under Two Years Before and After the complementary feeding Education

Variable	Mean	Standard Deviation	P-value
Feeding Practices for Stunting			
Pre Intervention	87.06	24.75	0.0001
Post Intervention	112.32	29.22	

DISCUSSION

Feeding practices are an important factor in reducing the incidence of stunting in children under two years. These feeding practices can be carried out through the provision of a nutritional intervention by mothers to children under two years with appropriate complementary feeding. Appropriate complementary feeding can impact good growth and development in children in the future. The results of this study indicate that after a nutritional intervention was given to mothers of children under two years, the average score on feeding practice for stunting children under two years after the nutrition intervention is higher than the average score on feeding practice for stunting children under two years before the nutrition intervention. This means that there is a significant difference between the average score on feeding practices for stunting children under two years before and after the nutrition intervention.

The high practice of feeding by mothers can increase nutritional intake in children under two years, which has a good impact on improving their nutritional status as

well as their growth and development. Mothers of children under two years provide complementary feeding according to the children's age group, ranging from six months to two years. This is in line with the results of a study by Setyowati et al., (2016) that at the age of 6 months and over, breast milk is no longer sufficient for children's needs, so complementary feeding is needed. At the age of six months, the digestive system of children is relatively perfect thus complementary feeding can be given. Another study states that providing complementary feeding that is adequate and age-appropriate can help the growth and development of children to be optimal, including their height growth which is an indicator of stunting (Mufida et al., 2015). This is also in line with the results of another study stating that there is a relationship between the roles of the complementary feeding practices to the nutritional status of children aged 6-24 months, which is related to the incidence of stunting in Indonesia (Rahmah et al., 2020).

The components examined in the complementary feeding practices in this study included the 4-star menus, which consist of carbohydrates, animal protein, vegetable protein, and vitamins and minerals. The results of this study indicate an increase in feeding variety by mothers after being given the educational intervention and demonstration. In addition, mothers of children under two years pay more attention to the time, frequency, texture, and amount of food given to their children after being given the intervention. This is in line with the results of a study by (Rahmah et al., 2020) that the time and frequency of complementary feeding as well as energy and protein intake show a significant relationship with the nutritional status of children. Types of complementary feeding variations and the knowledge of mothers in providing complementary feeding, after being given the educational intervention, show a significant relationship with the nutritional

status of children including height growth which is an indicator of stunting.

The 4-star menus are food menus recommended by WHO as complementary feeding for ASI. Fulfilling the needs of complementary feeding can be known by parents of children through counseling as a form of educational intervention. This study was carried out by providing a nutritional intervention to mothers of children under two years in the form of education and a demonstration on how to make complementary feeding. The results show that there is an increase in the complementary feeding practices after being given the nutritional intervention. A study by (Saputri & Kusumastuti, 2019) shows that the application of counseling about complementary feeding increases the complementary feeding practices with the 4-star menus in toddlers aged 6-12 months, where parents of toddlers apply a variety of 4-star complimentary menus in feeding their children.

The educational intervention provided in this study also emphasized mothers of children under two years to provide various types of food according to the availability of family food ingredients and local food ingredients that are easy to get, but meet the nutritional needs of children according to the recommendation of the provision of complementary feeding with 4-star menus. This is in line with a study stating that the provision of complementary feeding is based on the availability and consumption of local food ingredients in the community. The results of this study show that after the health education was given, it was able to bring about major changes in the complementary feeding practices to children according to food availability. Mothers are motivated to practice the recommended actions for positive behavior change. This study will improve knowledge and attitudes, as well as cooking and feeding children skills. This means that nutrition education intervention provided through health

counseling and demonstration can influence feeding practices (Gizaw et al., 2022).

This study used audiovisual media and a demonstration to provide a nutritional intervention for mothers of children under two years with stunting. Other studies of this kind used videos and posters as nutrition education intervention to assess the effectiveness of feeding practices for children. After being given health education through videos and posters, the overall results show an improvement in feeding practices for children, children eat more variety in food and the frequency of eating increases. In conclusion, nutrition education intervention using videos and posters is effective in improving complementary feeding practices and respondents take benefit from the nutrition education intervention sessions (Bodjrenou et al., 2020).

The nutritional intervention in this study was provided in the form of counseling and a demonstration on making various complementary feeding menus for mothers of children under two years, and the results show an increase in feeding practices for children. The results of this study are in line with the results of another study stating that after counseling about complementary feeding was given to mothers, it helps improve the behavior of mothers in providing complementary feeding. This shows that there is a significant influence on the behavior of mothers in providing complementary feeding before and after health education was carried out on the management of food ingredients in the form of Moringa leaves (Pane & Hasanah, 2022). Another similar study is a pre-post intervention study on children with undernourished status aged 6-24 months. The intervention provided was in the form of nutrition education on the nutritional status of children. The results show that there is a significant increase in the nutritional status of children after nutrition education intervention in the nutritional status of children was given

to mothers of children with malnutrition, including stunting (Auwuh et al., 2019).

One of the causes of stunting is the mother's lack of knowledge about inappropriate feeding practices, thus an educational intervention for mothers with stunting children about feeding practices is expected to increase the knowledge of mothers. This study used audiovisual media (video) and a demonstration to provide a nutritional intervention. Whereas, another study used an educational intervention by brainstorming with mothers. The study was done to determine the influence of nutrition education through brainstorming on the knowledge of mothers with stunting children aged 6-24 months. The study used a quantitative method with a quasi-experimental design using two groups of pre-test and post-test with a control group. The results show that there is an influence of nutrition education through brainstorming on the knowledge of mothers on feeding practices. Besides, it can monitor children's weight and height to prevent stunting (Yanniarti et al., 2022).

Another study in the form of a systematic review was carried out by researchers who examined ten articles. Several studies have shown that one of the main causes of stunting is based on the knowledge of mothers. This study aimed to determine the influence of nutrition education intervention on the behavior of mothers in fulfilling nutrition in stunting children under two years. Appropriate nutrition education interventions are effective in preventing stunting and improving the nutritional status of stunting children. Findings show that nutrition intervention education can improve the behavior of mothers in feeding and improve nutrition in stunting children (Karra et al., 2021). Apart from being supported by the factor of the knowledge of mothers who are given education through certain media, the complementary feeding practices are also influenced by culture, including the eating

habits of children. A study by Elni & Julianti, (2020) shows that there is a significant relationship between the eating habits of children and the incidence of stunting in children under five years in West Bangka Regency.

CONCLUSION

Most children under two years are male and the average age of children is 13 months. In addition, the average feeding practice for stunting toddlers after the complementary feeding intervention was higher than the average feeding practice for stunting toddlers before the complementary intervention. The results of the analysis found that there was a significant difference between the average stunting toddler feeding practice before and after the complementary feeding education.

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AUTHOR CONTRIBUTION

Erna Julianti: Making research reports, collecting research data and compiling manuscripts

Elni: collecting research data

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SUGGESTIONS

Add to parents' insights about complementary feeding. Making, list household size, examples of dishes given 3 times a day for 1 week so parents can apply proper feeding.

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DECLARATION OF CONFLICTING INTEREST

The researcher stated that there was no conflict of interest in conducting this research.

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