

Local Wisdom Education for Better Toddler Nutrition: Preventing Stunting in Tulungagung

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Introduction: The prevalence of stunting in Indonesia is still high. Stunting research is important because stunting is a serious public health problem. Healthy feeding is expected to prevent stunting, obesity, and malnutrition. This study aims to examine the level of influence of local wisdom-based health education with booklet media that is effective in improving toddler nutrition parenting.

Methods: The study uses a quasi-experimental design to see if local wisdom-based health education can improve toddler nutrition parenting practices. Mothers in the intervention group will receive health education and booklets, while mothers in the control group will not. The researchers will then compare the two groups to see if there is a difference in their toddler nutrition parenting practices.

Results: Wilcoxon test shows health education improved toddler nutrition parenting practices (p -value=0.00). The paired t -test result with a p -value of 0.047 further confirms the findings of the Wilcoxon test. Research shows that health education based on local wisdom with booklet media is effective in improving the nutritional parenting style of toddlers. This health education can help prevent stunting in toddlers.

Conclusion: The use of local wisdom-based health education books can be considered as a medium to improve toddler nutritional practices and prevent stunting.

Keywords: Booklet, Local wisdom, Parenting, Prevalence of stunting, Toddler nutrition

Edukasi Kearifan Lokal untuk Meningkatkan Gizi Balita: Pencegahan Stunting di Tulungagung

Latar Belakang: Prevalensi stunting di Indonesia masih tinggi. Penelitian stunting penting karena stunting merupakan masalah kesehatan masyarakat yang serius. Pemberian makanan sehat diharapkan dapat mencegah stunting, obesitas, dan gizi buruk. Penelitian ini bertujuan untuk menguji tingkat pengaruh pendidikan kesehatan berbasis kearifan lokal dengan media booklet yang efektif dalam meningkatkan pola asuh gizi balita.

Metode: Penelitian ini menggunakan desain quasi eksperimental untuk melihat apakah pendidikan kesehatan berbasis kearifan lokal dapat meningkatkan praktik pengasuhan gizi balita. Ibu pada kelompok intervensi akan mendapatkan pendidikan kesehatan dan booklet, sedangkan ibu pada kelompok kontrol tidak. Peneliti membandingkan kedua kelompok untuk melihat apakah ada perbedaan dalam praktik pengasuhan gizi balita.

Hasil: Uji Wilcoxon menunjukkan pendidikan kesehatan meningkatkan praktik pengasuhan gizi balita (p -value=0,00). Hal ini menunjukkan bahwa kelompok intervensi yang mendapat pendidikan kesehatan mengalami peningkatan pola asuh gizi balita dibandingkan kelompok kontrol yang tidak mendapat intervensi. Hasil uji t berpasangan dengan nilai p 0,047 memperkuat temuan uji Wilcoxon. Penelitian menunjukkan bahwa pendidikan kesehatan berbasis kearifan lokal dengan media booklet efektif dalam meningkatkan pola asuh gizi balita. Pendidikan kesehatan ini dapat membantu mencegah stunting pada balita.

Kesimpulan: Penggunaan buku edukasi kesehatan berbasis kearifan lokal dapat dipertimbangkan sebagai media untuk meningkatkan praktik gizi balita dan mencegah stunting.

Kata kunci: Booklet, Gaya pengasuhan, Kearifan lokal, Nutrisi balita, Prevalensi stunting

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INTRODUCTION

Stunting as a serious public health problem affecting millions of children under five worldwide.¹ Stunting is a condition of failure to thrive in children under five due to chronic malnutrition and recurrent infections.² According to the Indonesian Nutritional Status Survey (SSGI) of the Ministry of Health, the prevalence of stunting toddlers in Indonesia is 21.6% in 2022 with East Nusa Tenggara (NTT) in the top position at 35.3%, West Sulawesi ranked second at 35%, West Papua and West Nusa Tenggara with the prevalence of stunting toddlers at 34.6% and 32.7% respectively.³ Stunting can be prevented by providing nutritious food, access to quality health services, and increasing public awareness about the importance of nutrition for children under five.^{4,5}

This research is important because stunting is a serious public health problem. Stunting is the failure to grow children under five due to chronic malnutrition and repeated infections, causing impaired growth and development physically, mentally, and socially. This research is important to measure the effectiveness of interventions that can be used to reduce the prevalence of stunting.

Recommended age consumption products (5-16 months) for wafer snacks and rice snacks by increasing the intensity of taste/texture increases according to age recommendations.⁶ Reducing sugar by up to 30% and processed ingredients in children's food products is significantly accepted by both toddlers and parents in the reformulation of healthier products.⁷ Reduce sugary products in fruit juice as one strategy to reduce the risk of obesity in children.⁸ The role of identifying 5 feeding constructs: responsive, forceful/pressing, restrictive, pampering has contributed to interventions to understand the relationship between feeding practices and toddler health and behavior.⁹ The importance of continuing and strengthening policies to ensure families with infants and toddlers have an adequate, predictable, and reliable food supply.¹⁰ The initiation and duration of breastfeeding has increased, but the exclusivity of breastfeeding is still low with low levels of consumption in iron, fruit, and vegetable foods.¹¹ The infants' diet was sufficient for most micronutrients and was stable during the study period, but sodium intake was too high, and there were still nutritional deficiencies,

especially vitamins D, E, and fiber at all ages and for iron.¹² The importance of parents being sensitive to the behavior of toddler independence needs favors healthy emotional and psychological development.¹³ The initial phase of complementary foods can increase the success of the introduction of new, bitter, and more difficult to like foods.¹⁴

The existing findings become integration with innovation in the research environment in Bandung District, Tulungagung Regency, East Java. The role of breastfeeding, eating behavior, fish-based foods, traditional specialties and fast food as indicators in this study for control testing and intervention. Control is carried out by providing health education with lectures without treatment, while health education interventions with lectures and given booklets as treatment. The hope to reduce stunting in Tulungagung Regency is to continue to introduce local specialties to children from an early age. By applying a good diet, so that toddlers can grow and develop healthily, and avoid stunting, so that it becomes an inspiration for other mothers in Tulungagung Regency to provide nutrient-rich food to their toddlers.

Thus, stunting can be prevented and children in Tulungagung Regency can grow and develop optimally with the role of booklet products containing local wisdom consumption products. This product includes typical Tulungagung foods, such as sea fish, fresh fish, native chicken, native chicken eggs, yellow rice, dried tempeh, eggs, fish, shredded chicken, anointing, iwel-iwel, 7-color porridge, lodho chicken, and khotokan, which are rich in nutrients for children's growth and development.

This research uses innovative interventions, namely using local wisdom, covering birth events in the form of food menus, which are then presented in the form of booklets for health education in stunting prevention. Local wisdom in the practice of *selamatan* is a routine tradition carried out by the Tulungagung community. With this practice, it will be documented in a booklet as a medium of health education to the respondents who will be involved.

Previous studies have not used this. This booklet as local wisdom is a cultural value that is believed and practiced by the community. The use of local wisdom in health education is

expected to make health education messages more easily accepted and implemented by the community. In addition, this study also uses booklet media as a means of delivering health education messages. Booklet media is a media that is easy to carry and read repeatedly, so as to improve respondents' understanding and memory.

The purpose of this study was to determine the effectiveness of health education based on local wisdom with booklet media in improving toddler nutrition parenting to prevent stunting. The purpose of this study was specifically to measure changes in nutritional parenting patterns of toddlers before and after being given health education. Determine differences in infant nutrition parenting between intervention and control groups. Testing the hypothesis design that health education based on local wisdom with booklet media affects the nutritional parenting style of toddlers.

This research is for the people of Ngungguh Village in reducing stunting rates and improving children's health. Health education based on local wisdom with booklet media is effective in improving the nutritional parenting style of toddlers. By improving the nutritional parenting of toddlers, it is hoped that the stunting rate in Ngungguh Village can decrease and the nutritional status of children will be better. In addition, health education based on local wisdom can also instill balanced nutrition habits from an early age in mothers and children, so that a healthy diet becomes part of the community's culture.

METHOD

Participant and Study Design

This study is an experimental research with a pretest-posttest control group design. This research was conducted in Bandung District, Tulungagung Regency, East Java. The study population was mothers of toddlers with children aged 6-24 months. The research sample amounted to 60 respondents who were divided into two groups, namely the control group (30 respondents) and the intervention group (30 respondents). The control group was given health education about stunting in general, while the intervention group was given health education based on local wisdom with booklet media. Health education is given for 2 meetings, each for 2 hours.

Measurements and Procedures

The findings to be achieved include the role of the control group and the intervention group in terms of nutritional parenting of toddlers. The mean posttest score of the intervention group was higher than that of the control group. This shows that health education based on local wisdom with booklet media is effective in improving toddler nutrition parenting. This study used a quasi-experimental design with a pretest-posttest nonequivalent control group design method.¹⁵ This design has two groups, namely the experimental group and the control group. The experimental group was given treatment, while the control group was not given treatment. Both groups were given a pretest before treatment and a posttest after treatment. The difference in posttest results between the experimental group and the control group was used to test the research hypothesis.

This research involved a team from the Tulungagung District Health Office directing Ngunggahan Village as a research location because it is included in 13 stunting locus villages with a target of Zero stunting by 2023. The decision to choose the location because it is in accordance with research needs, among others, Geographical Conditions: Ngungguh Village is included in mountainous land, this condition can affect the diet and health of the community. Livelihood: The majority of the population makes a living as farmers, so the availability and consumption of local food may be higher. Traditions: Society still holds strong traditions for generations, including pregnancy and birth-related events, which can influence parenting practices.

This research is participatory by living and being involved in the daily lives of the people of Ngunggahan Village to directly observe behaviors, habits, and traditions related to child feeding and nutrition practices. Daily activities are observing the activities of mothers of toddlers in the surrounding environment (markets, food stalls, posyandu) to see the choices and types of food given to children. Interviews were conducted with 60 mothers of toddlers in Ngunggahan Village, Tulungagung, periodically for 12 months, from July 2022 to July 2023. Interviews were conducted to determine the behavior of mothers in providing food and drinks to children under five, especially related to indicators of breastfeeding, eating behavior,

fish-based foods, traditional specialties, and fast food.

Statistical Analysis and Ethical Clearance

This study used stages with the distribution of questionnaires to control and intervention respondents. Tabulate the results of the questionnaire, then conduct statistical testing with the Wilcoxon test and independent t-test. This test is to produce a hypothesis from the study, namely that there is an influence of local wisdom-based health education with booklet media on improving toddler nutrition parenting as an effort to prevent stunting.

Ethical approval has been declared feasible in accordance with 7 WHO 2011 standards, concerning social values, scientific values, equal distribution of burdens and benefits, risks, exploitation, confidentiality and privacy as well as approval after explanation referring to the CIOMS 2016 Guidelines per July 26, 2022 – January 30, 2023.

RESULT

Based on this research, the characteristics of respondents are as follows (Figure 1.). The control and intervention

groups had the same number of respondents, at 50%. This suggests that both groups have relatively similar characteristics (Figure a). The majority of respondents (53.33%) were less than 30 years old (Figure b). This shows that the study respondents were young mothers. The majority of respondents (63.33%) have secondary education (SMA-S1) (Figure c). This shows that the study respondents have a fairly high level of education. The majority of respondents (68.33%) are housewives (Figure e). This shows that the study respondents were mothers who took full care of their children. The majority of respondents (30%) are self-employed. This shows that the study respondents came from diverse economic backgrounds. The majority of respondents (60%) have an income of less than Rp15,000,000 per month. This shows that the study respondents came from families with middle to lower economies. Based on these characteristics, the study respondents were young mothers from various economic backgrounds, the majority of whom had upper secondary education levels.

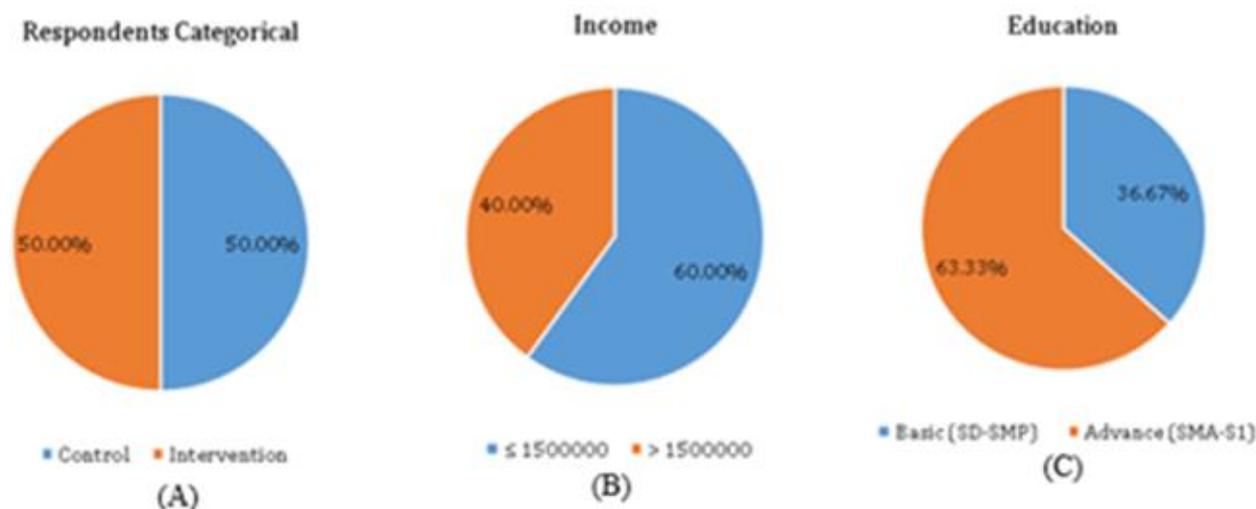


Figure 1. (A) Respondents Category (B) Respondent Revenue (C) Respondent Last Education (D) Age of Respondents (E) Respondents Job

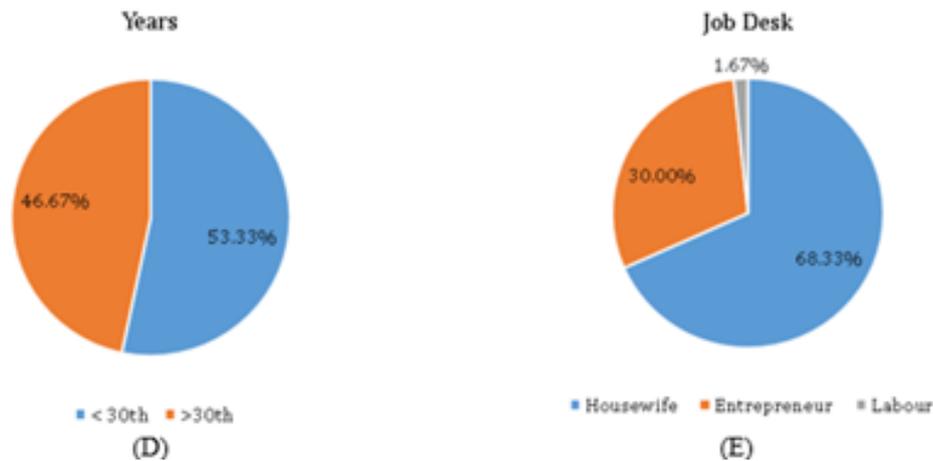


Figure 1. (A) Respondents Category (B) Respondent Revenue (C) Respondent Last Education (D) Age of Respondents (E) Respondents Job

The results of the average posttest score in the two groups there were differences, where the intervention group had a higher average value than the value of the control group. Pretest conducted before health education was given to respondents, it was found that the control group pretest was lower than the intervention group, namely the lack of nutritional parenting patterns applied by mothers in handling their toddlers.

Table 1, that the treatment and control groups had average post-test scores that were not significantly different. However, in the control group of undernourished mothers did not show any change, this was because mothers under five did not get health education interventions so that maternal knowledge did not increase (p-value 0.048).

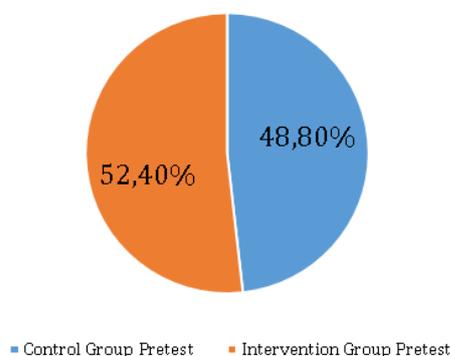


Figure 1. Average Assessment of Control Testing Against Interventions

	t	Sig.
Pre-test	-1.729	0.089
Post-test	0.389	0.698

Z-test	-6.759
Significant	0.000

F	Sig.	t	Sig. (2-tailed)
5.108	0.028	-2.031	0.047

Hypothesis testing to determine the effectiveness of local wisdom-based health education on toddler nutrition parenting to prevent stunting using the Wilcoxon test and independent t-test. Increased post-test scores in the control group after being given health education with the lecture method without treatment and the intervention group with the lecture method with booklet treatment, showed a significant change in results (Table 2). Where the value of the intervention group is higher, which means that health education based on local wisdom with booklet media is more effective.

The results of the independent t-test, there is a significant difference with a value of 2.031 at a significance level of 0.047 (Table 3). This shows that health education based on local wisdom with booklet media has a significant influence on changes in toddler nutrition parenting in the subjects tested.

DISCUSSION

Parenting of Toddler Nutrition Mothers After Health Education Was Given to the Control Group and Intervention Group

Health education to 60 respondents divided into 2 into a control group of 30 respondents and an intervention group of 30 respondents. The control group was given

health education about stunting in general. The intervention group was given treatment, namely by providing health education based on local wisdom with booklet media. The average posttest score obtained by the intervention group was higher than in the control group, indicating that there were significant results between the group given health education by giving booklets compared to the group that was not given booklets. The increase in posttest scores is due to the mother's curiosity about stunting and toddler parenting.

The function of the family as a means to prepare for both physical, health and care needs in times of illness.¹³ While parents are the closest people to children, so parents need to be empowered to provide the best nutrition for children so that children get optimal health status. Based on the characteristics of respondents, a total of 60 mothers with maternal age less than 30 years more than mothers with age more than 30 years. Where at that age is included in the productive age range, active and has high enthusiasm in child care.

The level of knowledge in the treatment group before health education was given and after being given there was a change or increase in knowledge in mothers of toddlers.¹⁶

Health education is carried out for various purposes such as improving the degree of health, preventing disease and injury, improving or restoring health, improving coping ability against health problems such as empowerment. Education focuses on the ability to perform healthy behaviors.¹⁷

The Influence of Health Education Based on Local Wisdom With Booklet Media on Improving Toddler Nutrition Parenting

There is a significant difference with a value of 2.031 at a significance level of 0.047. This shows that health education based on local wisdom with booklet media has a significant influence on changes in toddler nutrition parenting in the subjects tested.

Providing regular health education with simple materials, appropriate methods, adequate material providers and appropriate time will significantly increase knowledge of mothers' attitudes and skills in monitoring toddler development.¹⁸ The provision of knowledge conveyed through health education will have an impact on increasing knowledge from those who do not know to know, so that

if done gradually then health education can be well received by the community. Health education based on local wisdom using booklets in this study is expected to be well accepted by the community, because the local wisdom of the community is still very strong. Providing booklets is very helpful in the process of providing health education, because the information has been written on the booklet and reduces parents' anxiety if they have to deal with health workers.¹⁴

Maternal education in both intervention and control groups is classified as having secondary education that should be able to easily capture the science in educating children. Health education using tools or learning media which in this study uses interesting booklet media will be very helpful in understanding the content of the message conveyed. Instinctively the mother's desire to take care of toddlers is very high, where the mother is the main caregiver for toddlers. Curiosity about how to care for toddlers to stay healthy is one of the processes parents have to find out through various media that now exist.⁴

The existing condition that has been overcome is the mother's effort = provide a good diet to her child. There is no compulsion for toddlers to eat, but try to make eating a fun activity. It is also to realize that instant food and chiki-chiki snacks are not good for health, so do not give them to their children.

Of the respondents involved who have understood the function of the booklet correctly, stated a 35-year-old housewife, is one example of a mother who plays an important role in reducing stunting. This is because of its role by introducing the typical food of Tulungagung Regency to his children from an early age starting at the age of 2 years. Tulungagung specialties, such as sea fish, fresh fish, native chicken, native chicken eggs, yellow rice, dried tempeh, eggs, fish, shredded chicken, urapan, iwel-iwel, 7-color porridge, lodho chicken, and khotokan, are foods that are rich in nutrients. Nutrients contained in typical Tulungagung food, including protein, vitamins, and minerals, are very important for children's growth and development. Protein plays a role in the formation of body tissues, vitamins play a role in various metabolic functions of the body, and minerals play a role in various physiological functions of the body.

Research shows that toddlers who eat nutrient-rich foods have a lower risk of

stunting. Therefore, the effort to introduce Tulungagung specialties to his children is the right effort to reduce stunting. In addition, in consuming typical Tulungagung dishes daily, it shows that toddlers have a good diet to reduce the risk of stunting. The people of Bandung District, Tulungagung Regency think that stunting is a shameful thing, so health workers have difficulty in providing education to mothers with stunted children. The efforts made by health workers in Bandung District by always holding routine posyandu activities and several programs to deal with stunting children. In accordance with the characteristics of children with Z-score calculations, it was found that in Bandung District, Tulungagung Regency with normal TB/U only 35%, short toddlers 43.3% and very short 21.7%.

CONCLUSION

To improve toddler nutrition practices and prevent stunting, consider health education booklets based on local wisdom. Evidence: Intervention groups receiving booklets showed greater improvement in knowledge and practices compared to controls. Advantages of booklets: Rereadable for reinforcement, portable and accessible without internet or electricity. Future considerations: Develop and implement broader nutrition education programs for toddlers.

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