



The Effect of Health Promotion for Stunting Prevention Regarding the Provision of Supplementary Food (PMT) Made from Local Food Using Leaflet Media on the Level of Knowledge of Mothers of Toddlers in Karanganom Hamlet, Sitimulyo, Piyungan, Bantul

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ABSTRACT

Stunting is a condition where a child's height is less than normal based on age and gender. The prevalence of stunting in Indonesia is still quite high, so it requires special attention. One factor that can cause this incident is the low knowledge of parents about nutrition. Providing health promotion regarding the provision of additional food made from local food can be one solution in preventing stunting as well as an intervention step. In order for communication to be more effective, leaflets are used as a health promotion media. The purpose of this study was to analyze the effectiveness of health promotion for Stunting Prevention Regarding the Provision of Additional Food (PMT) Made from Local Food with Leaflet Media in Karanganom Hamlet, Sitimulyo, Piyungan, Bantul. This study is a quasi-experimental study and uses a one group pre-test and post-test design. Data analysis using paired t-test and the results show that health promotion with leaflet media about the provision of additional food can be used as a measure to prevent stunting by increasing the knowledge of mothers of toddlers

INTRODUCTION

Indonesia is currently facing the Triple Nutrition Burden, not only the problem of malnutrition such as thinness, stunting, and anemia, but also the problem of excess nutrition or obesity and wasting (Ministry of Health, 2018). The problem of nutrition in Indonesia which is still very high certainly requires special intervention. One of the malnutrition that is still a major problem in Indonesia is malnutrition caused by the fulfillment of nutrition that has not been met both from the womb until the baby is born which can cause various health problems, both for the mother and the baby. One of the health disorders that affects babies is stunting or short stature due to chronic malnutrition (Ministry of Health, 2018). Stunting is a condition where a toddler has a length or height that is less than the age, which is more than minus two standard deviations of the median child growth standard from WHO (Ministry of Health of the Republic of Indonesia, 2018).

Stunting occurs when there is a lack of nutrition, especially during the 1000 HPK. This causes the fulfillment of nutrition and health services for pregnant women to require special attention as a form of stunting prevention. Stunting is the highest malnutrition problem in Indonesia compared to other malnutrition problems, namely 10.2% of babies in Indonesia are still born with low birth weight (<2500 grams), then 19.6% of toddlers in Indonesia have a weight that does not match their age, and 32.2% of toddlers in Indonesia have a height that does not match their age (short) (Ministry of Health, 2018). The prevalence of stunting in Indonesia is still quite high as evidenced by the results of the Riskesdas report from year to year in a row from 2007, which was 36.8%, in 2010 it fell to 34.6%, in 2013 it rose to 37.2%, and in 2018 it fell to 30.8% (Riskesdas, 2013). Although according to these figures, the prevalence of stunting shows a decline, this figure is still relatively high.

Furthermore, according to the Central Statistics Agency in the 2019 Health Statistics Profile, in 2009, the prevalence rate of stunting in toddlers was 27.7% or in other words, 2 out of 100 toddlers suffered from stunting (Statistics, 2019). The stunting rate is based on data from the Indonesian Nutritional Status Survey (SSGI) where the stunting rate fell by 2.8% from 24.4% in 2023 to 21.6% in 2022. A decrease of 3.8% per year is needed to achieve the target of 14% in 2024 (Ministry of Health, 2023). Stunting itself can be caused by low income and parental knowledge (Soekatri, 2020). Knowledge about stunting is very necessary for a mother because a mother's lack of knowledge about stunting can put children at risk of stunting (Ramdhani, 2021). This is because when the mother's knowledge, such as the lack of information that affects the mother's level of knowledge, has an impact on the lack of efforts made to prevent stunting and this condition will continue until the child is born and grows. When the mother's education and knowledge about nutrition are low, it has an impact on the selection of food to the presentation of food for families that do not meet the requirements for balanced nutrition (Soekirman, 2000).

According to one study in Pati Regency, it was found that one of the factors that causes stunting is the mother's lack of knowledge about nutrition which is actually the initial process of changing behavior to improve nutritional status (Sulistiyaningsih, 2021). Knowledge and ability in implementation are reflected in parenting behavior (Semba, 2008). One effort that can be made to increase nutritional intake to meet nutritional needs in order to achieve good nutritional status is by providing additional food (PMT). The additional food provided can be in the form of family food with recommended recipes and based on local food which is currently very varied, but the cooking method and cooking time greatly determine the availability of nutrients contained in the food (Ministry of Health of the Republic of Indonesia, 2016). This supplementary feeding program in the form of local food is one of the activities of the cash-intensive work program for health with a focus on macronutrients and micronutrients for toddlers and pregnant women which are needed to prevent Low Birth Weight (LBW) and stunted toddlers (Ministry of Health, 2018).

Stunting has a very broad impact on the individual itself, namely causing brain growth disorders that can permanently disrupt brain function and can cause children to have difficulty learning and low motor skills (Widanti, 2017). Irreversible physical and neurocognitive damage that accompanies stunted growth is a major obstacle to human development (De Onis, 2016). Small body size at birth and stunting during childhood are associated with short body appearance in adulthood, reduced body mass, reduced intellectual function, reduced intake and low birth weight from mothers who have experienced stunting as children (Dewey, 2011). Efforts to prevent stunting can be carried out from before pregnancy to after giving birth, this is because preventive efforts are needed with special attention so that toddlers can be born and grow with normal nutrition. Preventive efforts made during pregnancy preparation aim to ensure that the first 1000 days of life (HPK) of children can be successful. Then efforts to prevent stunting during pregnancy aim to maintain the mother's nutritional status during pregnancy to remain normal. And efforts to prevent stunting after giving birth aim to ensure that the child born can grow and develop normally.

The mother's knowledge can indirectly affect the nutritional status of the child. The higher the stunting rate in children, the lower the level of education of their parents, although this is not always the case (Beal, 2018). Lack of nutritional knowledge in mothers can be caused by the ineffectiveness of health promotion efforts to increase knowledge about stunting prevention. These prevention efforts can be carried out by providing health promotion with health education media. Health promotion is a learning process that aims to change the unhealthy behavior of a person or a community into healthy behavior (Ufthoni, 2022).

Health education media is a means of describing messages or information that a person or group of people wants to convey in the form of print, electronic, and outdoor media which aims to increase respondent knowledge and is expected to change a person's behavior about health in a more positive direction (Notoatmodjo, 2017). Based on the explanation, the purpose of this study was to analyze the effectiveness of health promotion for Stunting Prevention Regarding

the Provision of Supplementary Food (PMT) Made from Local Food Using Leaflet Media in the hamlet of Karanganom, Sitimulyo, Piyungan, Bantul.

LITERATURE REVIEW

Stunting remains a critical global public health issue, particularly in low- and middle-income countries, including Indonesia. Defined as impaired growth and development that children experience from poor nutrition, repeated infection, and inadequate psychosocial stimulation, stunting has far-reaching consequences for both individual development and national progress (UNICEF, 2021). According to the World Health Organization, the first 1,000 days of life – from conception to a child’s second birthday – represent a critical window for ensuring adequate nutrition and preventing stunting (WHO, 2015). Insufficient intake of macronutrients and micronutrients during this period can result in irreversible physical and cognitive damage. Research also indicates that maternal knowledge and behavior strongly influence the nutritional status of children, making health education a central strategy in stunting prevention (Nguyen et al., 2021).

The provision of supplementary feeding (PMT) is one widely applied intervention to combat malnutrition, particularly when rooted in local food resources. Supplementary foods made from locally available ingredients are not only cost-effective but also culturally acceptable and sustainable in the long run (Barker et al., 2018). Local food utilization improves accessibility and food security and has been shown to reduce dependency on imported processed food products (Reinhardt & Fanzo, 2014). Moreover, studies show that education on appropriate food selection and preparation methods is essential for increasing the impact of PMT programs (Lassi et al., 2020). Nutritional knowledge, particularly among mothers, is essential to improve child feeding practices, and targeted health promotion is critical to build this capacity effectively.

Health promotion interventions have proven effective in modifying behavior when they incorporate media tailored to the local context and audience characteristics. Among various health education tools, printed media such as leaflets have demonstrated strong potential in increasing knowledge and influencing attitudes, especially in community health programs (Glanz, Rimer, & Viswanath, 2015). Leaflets can present essential information in a concise, attractive, and portable form that facilitates individual learning (Sharma, 2020). In the context of maternal and child health, leaflets that include information on PMT, nutritional values, and feeding techniques can be effective tools for behavior change communication (BCC), especially when coupled with interpersonal communication strategies (Storey et al., 2011). Evidence suggests that educational interventions using visual media significantly increase knowledge retention and behavioral intention among low-literacy groups (Atak et al., 2018).

Furthermore, empirical studies support the efficacy of health promotion using leaflets in increasing maternal knowledge related to child health. A study conducted in rural India found a statistically significant improvement in mothers’ knowledge of weaning practices after a leaflet-based intervention

(Bhutta et al., 2013). Similarly, in Nigeria, the use of printed educational materials improved maternal awareness about exclusive breastfeeding and complementary feeding (Obasohan et al., 2022). In quasi-experimental studies using pretest-posttest designs, the use of structured leaflets has repeatedly been shown to increase knowledge scores in interventions focused on infant nutrition, immunization, and hygiene (Kim et al., 2016). These findings support the theoretical foundation of the current study, which integrates leaflet-based health education on PMT using local food as a strategic approach to empower mothers in Karanganom Hamlet in their efforts to prevent stunting among toddlers.

METHODOLOGY

This study is a study with a quasi-experimental method and a population of mothers of toddlers in Karanganom, Sitimulyo, Piyungan, Bantul. Quasi-experiments or pseudo-experiments or sometimes called pre-post-intervention studies to evaluate the benefits of interventions to evaluate the benefits of the intervention (Achen, 2021) with one group pre-test and post-test. Sampling using purposive sampling technique which is a non-probability sampling technique, where researchers rely on their judgment to select participants from the study population, also known as subjective or judgmental sampling (Obilor, 2023). Data were analyzed bivariately using a paired t-test to see the effect of health promotion on stunting prevention using leaflets. Statistical testing is used to determine statistical differences between two measurements or two conditions and observations must be normally distributed and not contaminated (Kim, 2018). The focus of this study is to describe the effect of health promotion on stunting prevention using leaflets and to describe the level of understanding of mothers of toddlers. Researchers collect data through scores on questionnaires.

RESULTS

In this study, researchers studied mothers of toddlers because they are the parties who play an important role in the family who are expected to be able to form a healthy lifestyle in their families. There are several things that researchers need to do in this study, namely preparing leaflet media that are used as communication media during health promotion. The first thing researchers do to prepare the media is to compile a framework of information that will be provided in the leaflet. The information provided is regarding the provision of additional food (PMT) based on local food. The information listed is expected to cover all important things so that the objectives of this health promotion are achieved. The information listed includes the definition of providing additional food, the principles and objectives of providing additional food, nutritional content, examples of food menus, important messages, and also tips for providing snacks.

This information is taken from reference sources from the Indonesian Ministry of Health (RI, 2018; Kemenkes, 2023). The definition of providing additional food is included as the opening information of this leaflet so that readers can first understand what is meant by providing additional food. The objectives and principles of providing additional food are included so that readers understand why additional food is given. Nutritional content is included

so that readers know what nutrients need to be in additional food. Examples of food menus are provided so that readers can imagine the food menu and the portions that should be given. The important messages listed are reminders for readers about the factors that influence toddler food intake. Tips for providing snacks are also included so that readers can provide snacks properly and correctly. The information provided does not only focus on toddlers, but also on pregnant women because it is hoped that this information can develop widely.

In order to find out whether providing health promotion through leaflet media has an effect on the level of knowledge of mothers of toddlers, a questionnaire in the form of a pretest and posttest was given to find out whether there was a change in the level of knowledge before and after the intervention was given. The pretest and posttest have the same items and questions so that the assessment and interpretation of the results can be seen clearly. There are 20 questions to show the variation in the provision of questions. Questions are made based on the material listed in the leaflet in order to measure changes in the level of knowledge of mothers of toddlers after the intervention. The form of questions is in the form of questions using the Guttman scale which includes making questions with the answers "True" and "False" given a score of 1 and a score of 0. The questionnaire used was made by the researcher.

Sampling in this study was carried out by purposive sampling. The sample used in this study were mothers of toddlers who had toddlers and were willing to be samples by being willing to participate in research activities from beginning to end. It is known that the average age characteristics of mothers of toddlers who were respondents in the experimental group were mostly found in the age range of >30 years, namely 11 respondents (55%) and the rest were in the age range <30 years, namely 9 respondents (45%). In addition, the characteristics based on the last education, many came from the SMA (Senior High School) and equivalent groups, namely SMK (Vocational High School) and SLTA (Senior High School), totaling 11 respondents (55%). Based on this study, the characteristics of the respondents' jobs, many worked as housewives (65%).

DISCUSSION

A mother is someone who has a very large role in the family. She has a role as a wife, mother, and health care provider. For toddlers, the role of a mother is very important, namely in fulfilling nutrition for toddlers. In order for mothers to be able to provide good nutrition for toddlers, they must have adequate knowledge and skills as capital in fulfilling nutrition so that toddlers have good growth and development. If there is a problem in fulfilling the nutritional intake of toddlers, it will affect the toddler's physical condition. The level of education will have an indirect impact on parenting patterns, a higher level of education will make it easier for a person or society to absorb information and implement it in daily behavior and lifestyle (Laelatus, 2015).

One of the impacts that can occur if there is a problem with food intake is stunting. Stunting is a condition where a person's height is less than normal based on age and gender, this is caused by chronic malnutrition and repeated infections in toddlers. Stunting can cause decreased cognitive abilities which

have an impact on the quality of human resources and cause high incidence of morbidity and mortality. One of the causes of stunting is the lack of food intake which plays an important role in the growth and development of the body. Providing additional food can be one of the preventive efforts for stunting in toddlers. Providing additional food is expected to prevent nutritional problems from occurring and can also be given to overcome the occurrence of a nutritional problem.

Empowerment of local food can also be used as an ingredient to make additional food so that it can cover all levels of the community's economy. Of course, this must be informed to both prospective mothers and mothers of toddlers. One of the efforts that can be made is to provide health promotion regarding the provision of additional food based on local food as an effort to prevent stunting. Public health programs designed to address stunting among mothers should start with education aimed at increasing knowledge about stunting and creating accurate perceptions about stunting and its threats to health (Hall, 2018).

Health promotion is an activity carried out with the aim of improving health in the community. This activity is held to be able to change the behavior of an individual or a group of people so that there is a change in behavior to be healthier through communication. To be more effective, a link is needed in the form of communication media. One of the media that can be used in health promotion is leaflets. Leaflets are a medium that is often used when providing health promotion because they are simple and attractive media so that they can arouse curiosity. Some of the advantages of leaflets are that they are durable, can reach many people, require low costs, are easy to carry anywhere, and have an aesthetic beauty that increases interest in reading the information contained in the leaflet. In this study, the experimental group consisting of 20 samples received counseling using leaflet media. In this study, a bivariate test was conducted using paired t-test to determine the effect of health promotion using leaflet media on the level of knowledge of mothers of toddlers, so that the data obtained were the difference in the average value of the pretest results, namely 16.25 and the average value of the posttest results, namely 17.65 (Table 1), which shows a difference in the average value before and after the intervention, namely an increase in the knowledge of mothers of toddlers after being given education using leaflet media. It can be seen that mothers of toddlers who received health promotion using leaflets showed a change in their level of knowledge after the intervention.

Table 1. Paired Samples Statistics

		Mean	N	Std.Deviation	Std. Error Mean
Pair 1	Pre-Test	16.25	20	1.618	.362
	Post-Test	17.65	20	1.599	.357

Based on the results of the paired t-test, it was found that $\rho = 0.001 < 0.005$ (Table 2), which indicates a relationship between the pretest and posttest variables. In this study, it can be seen that mothers of toddlers who received counseling with leaflet media showed changes in the level of knowledge between before and after the intervention was given, as can be seen based on the results of the paired t-test $\rho = 0.000 < 0.005$ (Table 3) which indicates the influence of providing health promotion with leaflet media.

There is an influence of providing health promotion with leaflet media on the level of knowledge of mothers of toddlers, where health promotion using leaflet media has the advantage of attractive visualization that can increase interest in reading the information contained in the leaflet.

Pictures and writing as well as the right color composition can facilitate the process of understanding for recipients of information. This will provide benefits such as increasing the knowledge of mothers of toddlers after reading the leaflet given during health promotion. In this study, health promotion using leaflet media was found to have a value of $\rho = 0.000 < 0.005$ using a 95% confidence level, which means that there is an influence of health promotion using leaflet media on the knowledge of mothers of toddlers in Karanganom hamlet.

Table 2. Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Pre-Test & Post-Test	20	.687	.001

Tabel 3. Paired Samples Test
Paired Differences

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of The Difference		t	df	Sig (2-tailed)
				Lower	Upper			
Pair 1 Pre-Test - Post-Test	-1.400	1.273	.285	-1.996	-.804	-4.918	19	.000

CONCLUSIONS AND RECOMMENDATIONS

Based on the results and discussion, the conclusion of this study: 1) health promotion on providing additional food can be used as a preventive measure for stunting; 2) the use of leaflet media as a tool to describe information as a health promotion media and help readers absorb information more easily so that it can influence increased knowledge. However, further research is needed to examine what factors of leaflet media can influence increased knowledge with health promotion programs.

FURTHER STUDY

This study still has limitations so that further research is still needed on the topic of The “Effect of Health Promotion for Stunting Prevention Regarding the Provision of Supplementary Food (PMT) Made from Local Food Using Leaflet Media on the Level of Knowledge of Mothers of Toddlers in Karanganom Hamlet, Sitimulyo, Piyungan, Bantul”.

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