



Empowerment of health cadres in conducting stunting prevention efforts using EMPASI SEHATI educational media

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ABSTRACT

Stunting is one of the nutritional problems experienced by the world, including Indonesia. Stunting occurs due to multifactorial causes. The incidence of stunting increases during the provision of complementary feeding. Many families practice inappropriate feeding practices, including early complementary feeding. Health cadres, as an extension of healthcare workers who interact directly with the community, are important in having the knowledge and ability to educate the community. The purpose of this community service activity is to empower health cadres to accelerate the reduction of stunting prevalence using the EMPASI SEHATI media. There is an increase in the knowledge of health cadres and the community regarding meeting the nutritional needs of children. The EMPASI SEHATI educational media can be an effective media that can be accommodated by health centers to increase public knowledge in the effort to prevent stunting in Indonesia.

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1. INTRODUCTION

Stunting is one of the health problems faced by the world, including Indonesia. Stunting is defined as the height or length of a child that is more than two standard deviations below the median of the standard growth of children from the World Health Organization (WHO) Stunting indicates a failure to reach one's genetic potential for height and is considered as a consequence of chronic undernutrition that originates from infancy (WHO, 2018).

In 2018, 22% or more than one in five children under five years old worldwide suffered from stunting. The average prevalence of stunting in Indonesian children from 2005-2017 ranked third highest in the Southeast Asia region (UNICEF, WHO, & World Bank, 2021). The 2018 Riskesdas data shows that the prevalence of stunting in Indonesian toddlers is 30.8%. (Badan Penelitian dan Pengembangan Kesehatan, 2019). This figure has decreased from 2013, namely 37.2%. (Badan Penelitian dan Pengembangan Kesehatan, 2014). The South Sumatra Provincial Health Office reported that the prevalence of stunting

under five in South Sumatra in 2018 was 22.8% ([Dinas Kesehatan Provinsi Sumatera Selatan, 2019](#)). WHO targets to reduce the prevalence of stunting globally by 40% in 2025 from 2013 conditions ([WHO, 2014](#)).

Stunting is a largely irreversible result of inadequate nutrition and recurrent bouts of infection in the first 1000 days of life ([WHO, 2018](#)). Stunting is caused by malnutrition during the first 2 years of life, starting when the baby is in the womb until the baby is 24 months old. Lack of maternal nutritional intake during pregnancy, intake of breast milk and complementary foods (MP-ASI) until the child is 24 months old can increase the risk of stunting in children.

According to [WHO \(2018\)](#), the incidence of stunting increases during the period of complementary feeding. Early complementary feeding is one of the inappropriate feeding practices carried out by the family. Giving complementary foods early can increase morbidity because consuming complementary foods early results in a decrease in breast milk consumption, even though breast milk is the only best food for up to 6 months of age. Another negative impact is the increased risk of allergies and diarrhea. On the other hand, not a few families delay giving MP-ASI. Delays in giving MP-ASI can result in delays in the growth and development of the baby because the baby does not get the additional food needed according to his age.

Various efforts have been made by health workers and Posyandu cadres in order to increase mothers' knowledge regarding feeding their children, including by conducting educational activities. However, in carrying out these educational activities, health workers and Posyandu cadres encountered various obstacles, including mothers who sometimes did not focus on listening to the material. This causes the mother to not understand the material presented. This condition is of course an obstacle to achieving the stunting reduction target set by the government.

The step taken by the government in an effort to accelerate the reduction of stunting prevention is the establishment of the National Strategy for the Acceleration of Stunting Prevention. The government is targeting to reduce the prevalence of stunting by 14% in 2024. This national strategy is implemented through five pillars, namely (1) leadership commitment and vision, (2) campaigns and behavior change, (3) convergence of central, regional and village programs, (4) food security and nutrition, and (5) monitoring and evaluation ([Sekretariat Wakil Presiden Republik Indonesia, 2021](#)).

The community service team seeks to support government programs by implementing strategies through the second pillar, namely campaigns and behavior change. The community service team empowers health cadres who are an extension of the health workers at the forefront who interact directly with the community in carrying out stunting prevention efforts. Community service activities involve health cadres. Health cadres will be given refreshments regarding the nutritional needs of children according to age. Health cadres are also trained and involved in the use of EMPASI SEHATI educational media to increase public knowledge in their target areas.

EMPASI SEHATI is an abbreviation of "Edukasi MP-ASI SEHat cegAh stunting" which means Healthy Complementary Feeding Education for Preventing Stunting. EMPASI SEHATI is an educational media developed by a team through research activities and has obtained a copyright certificate from the Ministry of Law and Human Rights with registration number EC00202161376. This educational media is adapted from the traditional game of snakes and ladders, but not all the rules of the game are applied in EMPASI SEHATI. Each box in the EMPASI SEHATI media contains health messages related to healthy and appropriate complementary feeding in order to prevent stunting.

The Covid-19 pandemic situation requires all parties, especially in the health sector, to make modifications in conducting health interventions. According to [UNICEF Indonesia \(2020\)](#), without appropriate action and modification of interventions, the number of stunted children is predicted to increase. Community service activities with strategies of empowering and involving health cadres in using the EMPASI SEHATI educational media are expected to make educational activities related to

feeding children, especially MP-ASI, more interesting and fun for the community. The community service team hopes that the community can reflect on feeding practices that have been carried out so far and learn how to feed babies and children in a healthy and appropriate manner so that they can reduce the prevalence of stunting in children.

2. METHODS

First Stage Implementation

The first stage of the activity began with training for all facilitators who will later be involved in providing health education using the EMPASI SEHATI media by the health cadres. The community service team was trained as facilitators to understand the material and the guidelines for using the EMPASI SEHATI media that had been previously developed. EMPASI SEHATI uses a snake and ladder board, question cards, dice, and pawns. EMPASI SEHATI contains health messages regarding providing healthy and appropriate complementary feeding for children.



Figure 1. Education media on EMPASI SEHATI

Afterwards, the community service team provided health education on the nutrition needs of children. Prior to conducting the education, the team administered a pre-test. The health education was delivered through a lecture method, which lasted for 40 minutes. The material was presented using simple language that could be easily understood by the health workers. The activity was then continued with a question and answer session. The training on the use of the EMPASI SEHATI media for health workers was a follow-up activity from the community service program.



Figure 2. Implementation of the pretest before socialization activities

Figure 3. Presentation of material on health education

Figure 4. Training on the use of EMPASI SEHATI educational media

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The training on the use of EMPASI SEHATI media started with the delivery of materials on EMPASI SEHATI media. The community service team explained the health messages contained in the EMPASI SEHATI media boxes, followed by a Q&A session. The activity continued with the facilitation of using the EMPASI SEHATI media.

The aim of the mentoring on the use of the EMPASI SEHATI media for cadres is to ensure that each cadre understands the material content and how to use the EMPASI SEHATI media. The community service team divided the cadres into several groups during the mentoring process. Each group consisted of 5 participants and 1 facilitator, all of whom were cadres. Each group simulated the use of the EMPASI SEHATI media according to the usage guidelines, accompanied by the community service team. The community service team provided a lot of input to the cadres as facilitators and participants, especially regarding the explanation of the material content in the EMPASI SEHATI media box. The activity concluded with a post-test to measure the knowledge of the health cadres after being given education and mentoring on the use of the EMPASI SEHATI media.



Figure 5. Assistance in the use of educational media of EMPASI SEHATI

Second Stage Implementation

The next series of community service activities is the empowerment of health cadres. In this activity, cadres who have been trained to use the EMPASI SEHATI media act as facilitators, and the participants are mothers with babies and toddlers in the working area of the Sako Health Center. The health cadres lead the education using the EMPASI SEHATI media.



Figure 6. Empowering health cadres

The community service program divided the participants into groups consisting of one health cadre who acted as a facilitator and five health cadets as participants. The facilitator's role was to explain the purpose and benefits of the activity and explain the rules of the game. The community service team ensured that all participants understood the rules before the educational activity began. The educational

activity with EMPASI SEHATI media started with rolling a dice for the first participant. The participant was allowed to move their pawn according to the number on the dice. The participant was allowed to read the material in the EMPASI SEHATI education media box. The facilitator then read out questions related to the material that had been read by the participant, and the participant was asked to answer. Participants who could answer the questions were given 1 point, and those who could not answer did not receive a point. The next stage was for the second participant to roll the dice, and so on. The education ended when one of the participants reached the last box. The participant with the highest point was the winner.

It seems that both the facilitator and participants were very enthusiastic and excited during the education with EMPASI SEHATI media. The education using EMPASI SEHATI media was designed to be as interesting and interactive as possible, so that all participants actively participated in the health education using EMPASI SEHATI media. The activity lasted for 45 minutes.

The participants took a post-test after the education with the EMPASI SEHATI media was finished. The post-test was conducted to measure the participants' knowledge after being given education using the EMPASI SEHATI media. At the end of the activity, all participants were given gifts, and the winner from each group was given an additional prize.

Implementation of Activity Evaluation

The evaluation is carried out based on the stages of community service activities and is carried out for each target audience. Univariate data obtained in the form of demographic data, knowledge before and after health education.

Table 1. Indicators and achievements at the evaluation and monitoring stage

Activities	Evaluation and Monitoring
The pre-test of knowledge of health cadres related to fulfilling nutritional needs for children includes: age, frequency, number and texture of MP-ASI that are appropriate for children	Pre-test questionnaire
Training on the use of EMPASI SEHATI educational media	Training and assistance
Post-test of knowledge of health cadres related to fulfilling nutritional needs for children includes: age, frequency, number and texture of MP-ASI that are appropriate for children	Post-test questionnaire

3. RESULTS AND DISCUSSION

The results of the evaluation of the implementation of community service activities revealed that there was an increase in the knowledge of health cadres regarding meeting the nutritional needs of children. Prior to the implementation of health education, the majority of health cadres had sufficient knowledge (53.3%). After being given education, the majority of health cadres had good knowledge (86.7%).

The evaluation results of community knowledge showed that before receiving education using the EMPASI SEHATI media, the majority of the community had knowledge in the category of sufficient (80%). This is in line with the research results of In'am et al. (2016), where the respondents' knowledge level was categorized as lacking before being given nutrition education. This can be caused by the lack of information obtained by mothers about child nutrition. Knowledge is something that arises from sensory perception and experience that has been processed and spontaneously arises, knowledge is also

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true because it corresponds to existing reality (Suryana, 2015). After being given education, the majority of the community had knowledge categorized as good (85%). The increase in knowledge among health cadres and the community is influenced by the health education provided by the community service team. This is in line with the theory presented by Notoatmodjo (2014) that knowledge is the result of knowing after someone perceives a certain object. Human knowledge is largely obtained through sensory perception of sight and hearing. According to Notoatmodjo (2014), the knowledge held by individuals can be influenced by the information they receive. Information obtained by individuals can make them have broader knowledge.

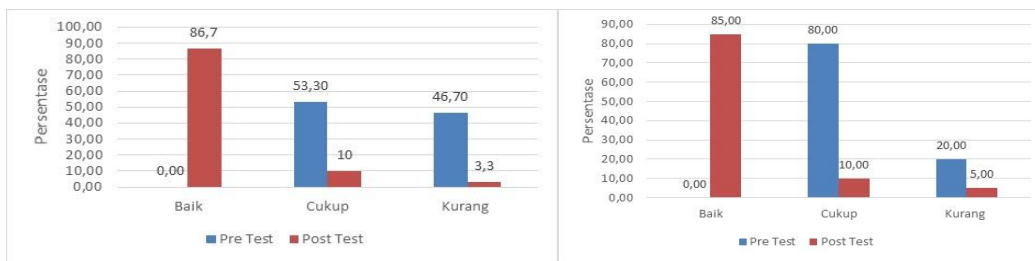


Figure 7. Health cadres' knowledge before and after health education with EMPASI SEHATI Media

Figure 8. Knowledge of the community before and after health education using EMPASI SEHATI Media

The community service activity provided health education to health cadres and the community through the use of EMPASI SEHATI media. EMPASI SEHATI media provides information to the community regarding the appropriate time to introduce complementary feeding, which is at 180 days of age. Complementary feeding must be introduced at the right time because if it is introduced too early or too late, it can cause various health problems in children. Early complementary feeding can result in a higher risk of malnutrition and increased susceptibility to infections, leading to lower immunity against diseases (Hidayatullah et al., 2021; Arini et al., 2017). This media also provides information on the appropriate frequency, quantity, texture, and variation of complementary feeding for children according to their age. According to UNICEF (2020), complementary feeding and appropriate feeding practices contribute to a child's survival, growth, and development. Children will be able to avoid the risk of micronutrient deficiencies, stunting, morbidity, and obesity later in life.

Media EMPASI SEHATI is the result of an innovation from the game of snakes and ladders. Himmamie et al. (2019) stated that the application of games in health education can stimulate the brain, increase knowledge, and self-confidence. This is in line with the results obtained by the community service team, health cadres, and the community, as they appeared enthusiastic and gave good responses when participating in health education using EMPASI SEHATI. Health cadres and the community also experienced an increase in knowledge.

However, the post-test results also showed that there are still some posyandu cadres and community members who have a sufficient and inadequate knowledge category. This may be due to differences in the concentration ability of each participant. According to Notoatmodjo (2014), knowledge produced after an individual perceives an object is highly subjective. This is influenced by the individual's perception and intensity of attention to the object. In addition, Bhinnety (2015) states that if there is information or stimuli that are not noticed, it will be immediately forgotten, but if the information or stimuli are paid attention to, the information will be transferred to short-term memory system (Bhinnety, 2015). The theory and research explains the reasons for the differences in the level of knowledge of each participant.

The understanding of health cadres and the community about meeting the nutritional needs of children, especially MP-ASI, is very important. Understanding will influence the attitudes and behavior of health cadres and the community. This is in accordance with the theory of Azwar (2016) which says that a person's knowledge will affect the attitude and behavior of that person.

4. CONCLUSION AND RECOMMENDATIONS

The community service activity was conducted from August to November 2022, targeting health cadres and the community. Health cadres were given education and training on the use of EMPASI SEHATI educational media. The trained health cadres then became an extension to disseminate information to the community about meeting the nutritional needs of children using the EMPASI SEHATI media. Health cadres and the community were enthusiastic in listening and interacting during the education using EMPASI SEHATI media. The evaluation results of the community service activity showed an increase in the knowledge of health cadres regarding the fulfillment of nutritional needs for children. EMPASI SEHATI media can be an alternative health education media to increase community knowledge in efforts to prevent stunting in Indonesia.

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