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Effectiveness of Health Education on Stunting in Adolescents to Improve Children's Quality of Life in the Future

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ABSTRACT

Stunting is currently still a major nutritional health problem for toddlers in the world, this is proven by the still high stunting rate in the world, including in Indonesia and West Java. One of the efforts to prevent stunting is through education to direct or change adolescent behavior so that they are willing and able to improve their health and meet their nutritional needs.This community service aims to increase adolescent knowledge about stunting. The method used in this community service is health education through lectures, questions, and answers about preventing stunting. This health education activity was attended by 30 junior high school students as participants. The activity began with a pre-test, then the material was delivered using PowerPoint media, and questions and answers. To determine the effectiveness of health education activities on participants' knowledge about stunting prevention, a post-test was then conducted. To determine the effectiveness of health education activities on participants' knowledge about stunting, a pre-test and post-test were conducted. There was an increase in participants' knowledge about stunting after health education. It is hoped that schools will integrate material about stunting into Health Effort program. Cooperation is needed between teachers, health workers, and parents in providing ongoing information, and health workers can develop interesting and age-appropriate educational modules or media so that information about stunting is easier for students to understand and can be applied in everyday life.

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INTRODUCTION

Stunting is still one of the nutritional problems that occur in toddlers. This is proven by the still high incidence of stunting in the world in 2017: 22.2%, or 150.8 million toddlers, and more than half (55%), or 83.6 million toddlers, occurred in Asia; a third (39%) in Africa; the largest proportion in South Asia (58.7%); and the least (0.9%) in Central Asia. (Kementrian Kesehatan RI, 2018). UNICEF et al (2020) Stated that globally, 21.3%, or around 144 million, toddlers experience stunting, and more than half (54%) are in Asia. In Indonesia, the stunting rate based on the results of the 2018 Riskesdas reached 30.8%; in 2019, it decreased to 27.67%, which means that one in four toddlers in Indonesia experience stunting; in 2022, it decreased to 21.6%; and in 2023, it will be 21.5%. (Ministry of Health of the Republic of Indonesia, 2023). Although the stunting rate has decreased, the figure is still higher than the World Health Organization (WHO) target of 20%, (Humas Litbangkes, 2019), and the national target for 2024 is 14%. (Indonesian Government, 2021), (BKKBN, 2021).

Based on data obtained from the Indonesian Ministry of Health in 2023, out of 33 provinces in Indonesia, the three provinces with the highest number of stunting are Central Papua, 39.4%; East Nusa Tenggara, 37.9%; and Papua Pegunungan, 37.3%. The stunting rate in West Java is 21.7%. (Kementrian Kesehatan, 2024). The stunting rate is high enough in West Java in 2022, and Sumedang Regency (27.5%) (Disdukcapil Jabar, 2023). ompared with the WHO target limits and the national target for stunting problems, West Java is one of the provinces in Indonesia that is still in a problematic condition (Indonesian Government, 2021),(BKKBN, 2021), (Kemenkes RI, 2019).

Prevention of stunting must begin as early as possible, with interventions in the population, including adolescents, namely to ensure that adolescents receive adequate nutrition before pregnancy, because malnutrition in adolescents will have an impact on the growth and development of the fetus when they are pregnant (Satriawan, 2018). One of the efforts to prevent stunting is through education. Education is needed to direct or change the behavior of adolescents so that they are willing and able to improve their health and meet their nutritional needs (Kementerian Kesehatan Republik Indonesia, 2018). Education about preventing stunting for adolescents is important to break the chain of stunting incidents in the future. The level of knowledge is a variable in determining how much someone has mastered information; therefore, individual or group knowledge, including adolescents, needs to be improved.

In the adolescent life cycle, it is very important to implement interventions to prevent stunting, one of which is by providing information about nutritional knowledge so that adolescents can understand the nutritional needs they require. (Andiani et al., 2022). Efforts to meet nutritional needs in the first 1000 days of life should provide information early on to prospective mothers regarding the problem of stunting. (Andiani et al., 2023). Preparation for entering the preconception period for adolescents is closely related to fulfilling daily nutritional needs, and preconception nutritional status is one of the factors that influences pregnancy conditions. (Noviasty & Susanti, 2020). Information about stunting can also be provided in the community environment, targeting adolescents and the general public, as an effort to prevent stunting from an early age. (Supriyatni et al., 2021). Through this health education, adolescents will be able to form a good understanding regarding nutritionally conscious behavior to prevent stunting. (Ingrit et al., 2022). This community service aims to increase adolescent knowledge about stunting.

METHOD

The method used in this community service is health education with the following stages: 1) identifying health problems; 2) identifying resources; 3) implementing health education; 4) evaluating community service activities. The stages of community service can be seen in Figure 1.

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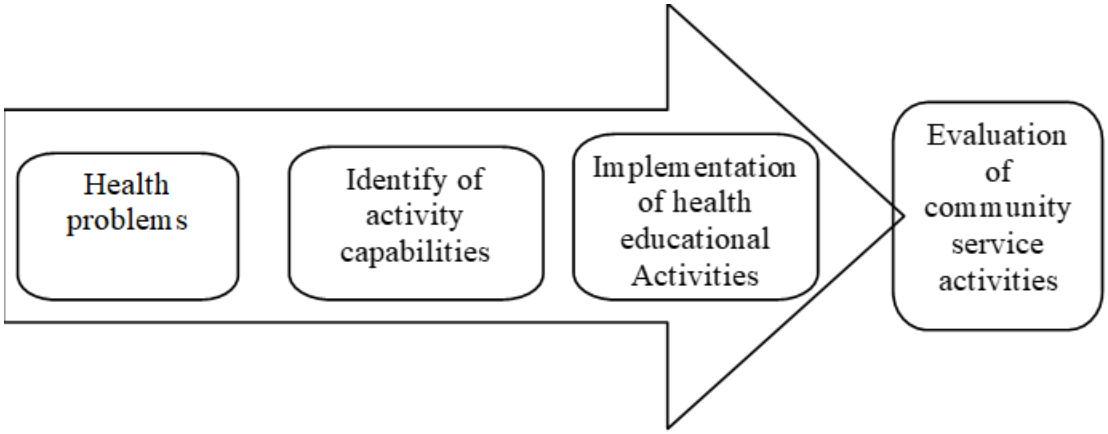

FIGURE 1. Activity Method Flow

The initial stage of community service is to identify health problems, then identify resources that can be used, develop strategies for health education about stunting, and determine the effectiveness of health education. An evaluation is carried out using a pre-test and a post-test. The target of the activity is junior high school students, and health education is attended by 30 participants. The implementation of health education begins with introducing oneself, explaining the purpose of health education, assessing students' abilities in carrying out activities, and asking for permission to carry out health education. The educational methods used are lectures, questions, and answers, using PowerPoint media. To determine the effectiveness of educational activities, participants are given pre- and post-tests. The rubric used for the pre-test and post-test used a questionnaire on adolescent knowledge about stunting that had been tested for validity using Pearson correlation with the results of r count (0.371-0.569) > r table (0.361) so that it can be concluded that all questions are valid and the reliability test used Reliability test using Cronbach alpha the results of r count (0.871) > from r table (0.6) so that it can be concluded that all questions are reliable. Univariate data analysis used frequency distribution, and bivariate data analysis used the Wilcoxon test because the data was not normally distributed and could be used to compare pre-test and post-test values.

RESULT

The community service activity that we carried out on Friday, November 15, 2024, at 09.00-11.00 with the title "Preventing Stunting as Early as Possible is Important", was attended by 30 participants, namely junior high school students in Sumedang Regency. This activity was carried out offline, using Power Point media. The implementation of community service activities through stunting prevention education can run smoothly according to plan, there are no obstacles during the activity from start to finish. Preparation for the implementation of the activity was carried out by 4 team members and assisted by 12 students of the Faculty of Nursing, Padjadjaran University, and health education activities were carried out by the entire team. During the activity, participants were quite enthusiastic, as evidenced by the many questions asked by participants.

The material presented includes the definition of stunting, preventing stunting by giving iron tablets to adolescents, freeing teenage girls from anemia, preventing the side effects of taking iron tablets, and a healthy lifestyle for you and your family (dr. Meva Nareza, 2020), (WHO, 2018). Evaluation of health education was conducted using a pre-test and a post-test. In addition, it can also be seen from the activity of participants during the question and answer session, which shows that participants understand and want to know more about the material that has been delivered. The results of health education can be seen in the table below:

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TABLE 1. Distribution of Respondent Characteristics (n=30)

Characteristics	f	%
Age		
13 Years	8	26,67
14 Years	10	33,33
15 Years	12	40
Class		
VII	12	40
VIII	10	33,33
IX	8	26,67
Mother's education		
High School	22	73,33
Junior High School	7	23,33
Elementary School	1	3,34
Mother's education		
Work	6	20
Doesn't work	24	80
Ever received information		
Yes	20	66,67
No	10	33,33
Information Resources		
Teacher	5	25
Internet	4	20
Health workers	11	55

Table 1 shows that almost half (40%) of the respondents were 15 years old and in grade VII, the majority of the respondents' parents' education (73.33%) was high school, their mothers did not work (80%), they had received information (66.67%) and the source of information was obtained from health workers (55%).

TABLE 2. Participants' Knowledge Before and After Health Education (n=30)

Knowledge Level	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Good	3	10	13	43,3
Enough	17	56,7	16	53,4
Not enough	10	33,3	1	3,3
Total	30	100	30	100

Table 2 describes the respondents' knowledge before being given health education, with the good category (10%), and after being given health education (43,3%), it was good.

TABLE 3. Test Results for Differences in Average Knowledge of Participants About Preventing Stunting (n=30)

Knowledge	Mean	Min	Max	SD	Range	p-value
Pre-test	60,77	45	80	9,239	35	0,001
Post-test	75,57	55	96	10,285	41	

Table 3 shows that there was an increase in the average knowledge of respondents after being given health education on preventing stunting pre-test (60.77) and post-test (75.57) and there was a significant

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influence of health education on respondents' knowledge after being given health education (p-value = 0.001).

DISCUSSION

A series of community service activities in an effort to increase adolescent knowledge about stunting prevention, at the beginning of the activity during brainstorming and pre-test results, most adolescents did not know and understand clearly about stunting prevention. The participants who attended were very enthusiastic about participating in the activity, because the presentation of this information was something new for them participants who attended. Although partially at the beginning of the activity during the brainstorming session, several participants were able to explain about stunting, overall, the participants did not clearly understand stunting prevention that could be done by adolescent girls. The existence of information about stunting prevention that must be done by adolescent girls in this activity made the students realize the importance of making efforts to prevent stunting that must be done by adolescent girls.

Knowledge is the result of knowing and occurs after sensing a particular object or obtained from experience. Sensing occurs from the five human senses, namely the senses of sight, hearing, smell, taste, and touch. Most human knowledge is obtained through the senses of sight and hearing (Notoatmodjo, 2019). Increasing the knowledge and understanding of adolescent girls about preventing stunting brings significant changes to the attitudes of adolescent girls in understanding stunting prevention. Appreciation of the attitudes shown by participants during the implementation of activities is expected to be the basis for efforts to increase social support for participants to prevent stunting. Before someone changes or adopts something new, they must first know the benefits of the behavior. Knowledge is the first stage, so that someone is willing and able to do the behavior. And the lack of knowledge among adolescent girls does not understand the food that must be consumed daily, whether it meets balanced nutrition standards or not, so that further and intensive intervention is needed regarding efforts to prevent stunting (Fadila & Kurniawati, 2018).

Teenagers as prospective parents have a big role in realizing a quality generation in the future because the most appropriate efforts to prevent stunting start from teenagers by increasing knowledge about stunting and the impacts that arise if a child experiences stunting. Lack of knowledge of teenagers as prospective parents about caring for 1000 HPK can increase the risk of children born later experiencing growth disorders, including stunting. Teenagers must get parenting education and a healthy understanding of the importance of implementing a balanced nutritional diet. Some things that teenagers need to plan before getting married include the ideal age for marriage (21 years for women and 25 years for men), being physically and mentally healthy, mental readiness, and financial/economic readiness. (Andiani et al., 2023).

Stunting prevention education is essentially an activity or effort to convey a message to the community, groups, or individuals with the hope that they can gain better knowledge so that it can influence attitudes and behavior (Jamni & Fadjri, 2020). The formation of a person's behavior is caused by the knowledge factor, which plays an important role in determining behavior because knowledge will form beliefs and then provide perspective to humans in preparing for reality, providing a basis for decision making, and determining behavior towards certain objects (Jamni & Fadjri, 2020). The formation of a person's behavior is caused by the knowledge factor, which plays an important role in determining behavior because knowledge will form beliefs and then provide perspective to humans in preparing for reality, providing a basis for decision making, and determining behavior towards certain objects (Putra & Hasana, 2019).

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LIMITATIONS

Although the current community service uses health education methods and PowerPoint media, we acknowledge that there are some limitations. First, the sample is limited to only 30 students, and there is no control group. With a larger sample and a control group, bias in the results can be reduced, and the results in the group receiving the intervention can be compared with the group not receiving the intervention. This can help measure how effective the education provided is in improving students' knowledge.

CONCLUSION AND RECOMMENDATIONS

Stunting is a condition where a toddler has a height of less than 2 Standard Deviations according to WHO standards and is shorter than children of the same age due to chronic malnutrition in the first 1000 days of life (from conception to the age of 2 years) and only appears after the child is 2 years old which can result in impaired physical and mental growth and development. One of the efforts to prevent stunting as early as possible is by increasing adolescent knowledge about efforts that can be made by adolescents about preventing stunting including: understanding stunting, preventing stunting in adolescents by giving iron tablets, free adolescent girls from anemia, preventing side effects of taking iron tablets, healthy patterns for you and your family. After health education on stunting prevention was conducted, there was an increase in knowledge both in terms of level and average, and there was an effect of health education on participants' knowledge, p-value <0.05. It is hoped that schools will integrate material about stunting into Health Effort program. Cooperation is needed between teachers, health workers, and parents in providing ongoing information, and health workers can develop interesting and age-appropriate educational modules or media so that information about stunting is easier for students to understand and can be applied in everyday life.

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APPENDIX

FIGURE 2. Delivery of material

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