

BALANCED NUTRITION TRAINING FOR ADOLESCENT GIRLS AS PEER EDUCATORS ON IMPROVING BEHAVIOR AMONG SENIOR HIGH SCHOOL STUDENTS FOR STUNTING PREVENTION

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ABSTRACT

Many Indonesian teenagers do not realize that they have short height or are called stunting. Nutrition Status Monitoring Data in 2017 shows that the percentage of young women with short and very short conditions has increased from the previous year, 7.9% very short and 27.6% short. One of the effective health education approaches for adolescents to prevent stunting is the Peer Education method on balanced nutrition. This study aims to the difference between peer education training on balanced nutrition in terms of increasing the behavior of young women in preventing stunting. The research locations were 2 (two) senior high schools in Soropia District, MAN DDI Bahrul Mubarak (treatment group) and SMAN 1 Soropia (control group) from September to December 2020. The samples involved were teenage girls aged 16-18 years class X and XI, the sampling was stratified random sampling. This type of research was an analytic survey with a quasi-experimental design with a pre-test post-test control group design model, namely the peer education method treatment group of 40 students and the counseling method control group of 40 students measured the level of knowledge, attitudes and practices about balanced nutrition through pre-test and post-test. The Mann-Whitney test was carried out with a significant level of 0.05. The results of the statistical test showed that there was a significant difference between the level of knowledge, attitudes and practices of young women in the peer education treatment group and the control group with the counseling method, namely $p = 0.000$ ($p < 0.05$), $p = 0.000$ ($p < 0.05$) and $p = 0.001$ ($p < 0.05$).

ABSTRAK

Remaja Indonesia banyak yang tidak menyadari bahwa mereka memiliki tinggi badan yang pendek atau disebut stunting. Data Riskesdas tahun 2017, diketahui persentase remaja putri dengan kondisi pendek dan sangat pendek meningkat dari tahun sebelumnya, yaitu 7,9% sangat pendek dan 27,6% pendek. Salah satu pendekatan pendidikan kesehatan yang efektif pada remaja untuk mencegah stunting yaitu dengan metode Peer Education (pendidikan sebaya) tentang gizi seimbang. Tujuan penelitian ini adalah pengaruh Pelatihan Gizi Seimbang Bagi Remaja Putri Sebagai Peer Education Terhadap Peningkatan Perilaku Pada Pencegahan Stunting Di Sekolah Menengah Atas Kec. Soropia. Jenis penelitian ini survey analitik dengan rancangan kuasi eksperimen dengan model pre test post test control group desain yaitu kelompok perlakuan metode peer education sebanyak 40 siswi dan kelompok kontrol metode penyuluhan sebanyak 32 siswi diukur tingkat pengetahuan, sikap dan praktik tentang gizi seimbang melalui pre test dan post test. Untuk mengetahui ada perbedaan dilakukan uji Mann Whitney dengan taraf signifikansi 0,05. Hasil uji statistik ada perbedaan bermakna antara tingkat pengetahuan, sikap dan praktik remaja putri kelompok perlakuan metode peer education dan kelompok kontrol metode penyuluhan yaitu $p = 0,046$ ($p < 0,05$), $p = 0,034$ ($p < 0,05$) dan $p = 0,000$ ($p < 0,05$).

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INTRODUCTION

Adolescence is a period of rapid changes in physical, cognitive and psychosocial growth. This period is a transition from childhood to adolescence which is characterized by many changes, such as increased muscle mass, body tissue fat, and hormonal changes (Merryana & Bambang, 2016). Adolescence is a period of nutritional vulnerability due to various reasons (Nurbaya & Najdah, 2023). The first, adolescents require higher levels of nutrition because of the dramatic increase in physical growth and development. Second, changes in lifestyle and eating habits of adolescents affect both nutritional intake and nutritional requirements (Almatsier, 2011).

Many Indonesian adolescents do not realize that they have a short height, known as stunting. The average height of Indonesian children is shorter than the WHO standard, which is 12.5 cm shorter for males and 9.8 cm shorter for females. Stunting in adolescents occurs due to nutritional problems during toddlerhood or pre-school. Malnutrition that occurs during toddlerhood, which indicates stunting, will result in stunted adolescent growth and development. The long-term impact of stunting on adolescent girls' health is in the form of short stature, increased risk of obesity, and decreased reproductive health, while the impact on developmental matters is decreased achievement and learning capacity, as well as decreased ability and capacity to work (Kasmawati et al., 2023).

Data from Riskesdas in 2013 showed that the percentage of adolescent girls with short and very short conditions increased from the previous year, namely 7.5% very short and 23.9% short (Kemenkes RI, 2013). In terms of nutritional intake, 32% of young women in Indonesia in 2017 are at risk of chronic energy deficiency (CED). Around 15 provinces have a percentage above the national average including Southeast Sulawesi Province of 34.1% (Kemenkes RI, 2018a). The 2018 Riskesdas data shows that 25.7% of adolescents aged 13-15 years and 26.9% of adolescents aged 16-18 years have short and very short nutritional status (Kemenkes RI, 2018b).

Stunting occurs from pre-conception when a teenager becomes a mother who is malnourished and anemic. It gets worse when pregnant with inadequate nutritional intake, plus when the mother lives in an environment with inadequate sanitation. Young women in Indonesia aged 15-19 years, the condition is at risk of chronic energy deficiency (CED) by 46.6% in 2013. When pregnant, there are 24.2% of Women of Reproductive Age (WUS) 15-49 years with the risk of CED, and anemia by 37.1% (Kemenkes RI, 2018b). The condition of the mother before pregnancy, both body posture (weight and height) and nutrition, is one of the factors that influence the occurrence of stunting. Young women as future mothers should have good nutritional status. If the nutrition of young women is not improved, then in the future there will be more pregnant women who have short stature and/or chronic energy deficiency. This will have an impact on increasing the prevalence of stunting in Indonesia (Pusat Data dan Informasi Kemenkes RI, 2018).

Optimal nutritional intake, both in terms of quantity and quality, is very important for optimal growth and development. For this reason, people's diets, including adolescents, need to be improved towards balanced nutritional consumption. Balanced nutrition is a daily food composition that contains nutrients in the type and amount according to the body's needs (Rachmi et al., 2019). The fact is that teenagers do not know about the concept of balanced nutrition at all, and still think that the correct nutritional guidelines are 4 healthy 5 perfect, even though since the 2000s the Balanced Nutrition Guidelines have been used. The 2017 Nusantara Movement Program visited 24 cities in 8 provinces to increase knowledge about nutrition and health, including explanations about PGS, healthy breakfasts, consumption of milk, outdoor activities, and healthy snacks. "From the survey before the training it turned out that knowledge about PGS was still low. What still emerged was 4 healthy 5 perfect. It turned out that balanced nutrition had not been well socialized. Therefore it is necessary to socialize Balanced Nutrition Guidelines for adolescents.

Peer education method is an information delivery system through peer education. Peer education can overcome some difficulties, can transfer knowledge and communication is done more freely and openly in peer groups. The results of a study conducted by Syria in Tallo District on 60 respondents aged 15-19 years about the role of peers in increasing knowledge about early marriage found that there was an increase in knowledge in the intervention group compared to the control. The increase in the knowledge of adolescents who are educated by their peers is also quite high. The study recommends peer involvement in youth-targeted programs. The purpose of this research is to find out

the differences in training nutrition Balanced method *peer education* against increase behavior of young women on prevention of stunting in high schools in Kec. Soropia

METHOD

Types of research

This study used a analytical survey quasi-experimental design with a pre test post test control group design model, where the subject group is observed before the intervention with a pre test and after the intervention with a post test.

Location and Time of Research

This research was located in 2 (two) high schools in Soropia Kec. Konawe Regency, Southeast Sulawesi, MAN DDI Bahrul Mubarak Soropia and SMAN 1 Soropia. It was implemented from September to December 2020 with a recommendation for ethical approval from the Polytechnic of the Ministry of Health Makassar No. 00748/KEPK-PTKMKS/X/2020.

Population and Sample

The population was 174 students of class X and XI, the sample size was determined based on Lemeshow's formula obtained 80 composed of 40 students of the treatment group (MAN DDI Bahrul Mubarak) and 40 students of the control group (SMAN 1 Soropia). The sampling was done by stratified random sampling.

Data collection

The collected data include sample identity data, knowledge, attitudes and practices obtained through interviews using questionnaires and then categorized into sufficient (if the score \geq median) and less (if the score $<$ median). Total questions asked to measure knowledge as many as 15 items, each question is given a score with a value of : 1 if the answer is correct and score : 0 if the answer is wrong. Total statements submitted to measure attitudes are 15 items, each statement is given a score value, for statements that are positive or supportive: strongly agree (SS) = 3; disagree (TS) = 2; strongly disagree (STS) = 1. But for statements that are negative: agree (SS): 1, disagree: 2, strongly disagree (STS): 3, while the number of checklists submitted to measure practice is 5 items, each statement is given a score of 1 if correct and a score of 0 if incorrect..

Processing and analysis of data

Analysis using SPSS Statistics To determine differences in the level of knowledge, attitudes and practices between the peer education method treatment group and the control group with the counseling method, the Mann Whitney Test with a significant level of 0.05 means that the statistical test results are significant if the p value $<$ 0.05.

INTERVENTION IMPLEMENTATION

Adolescent girls involved in this study were X and XI grade students. MA DDI Bahrul Mubarak Soropia school was selected as the treatment group that was given the intervention of peer education method on balanced nutrition while SMAN 1 Soropia school was selected as the control group that was given the intervention of counseling method on balanced nutrition. The subjects were from the same sub-district, Soropia sub-district, with similar characteristics in terms of age, grade and environment.

a. Selection of Peer Educators

First step in the data collection process of the treatment group is that the researcher coordinates with the Principal and Curriculum Teacher about the purpose and objectives of the intervention activities with the peer education method. The next step was to select the educators of adolescent girls who were considered worthy of having the ability to communicate and be able to influence their friends, using the Purposive sampling method with inclusion criteria including: a) X, XI and XII grade students, b) Good personality and attractive, c) Participation in training / counseling. Obtained as many as 15 young women who are representatives of each class.

b. Peer Educator Training

Adolescent girls who were selected as peer education were then given a briefing on the function of educators. In the third stage, researchers carried out balanced nutrition training including the provision of material and practice of balanced nutrition for 4 days starting at 10:00 - 12:00 am at the school.

c. Intervention Activities

The treatment group, the intervention was carried out by peer educators in peer groups or joining other students using a balanced nutrition guidebook that had been previously compiled containing the material: 1). Balanced nutrition, 2). Food Exchange Materials, 3) Body Mass Index, 4) Stunting and Adolescents. Conducted 8 times after school for 30 - 60 minutes and each peer educator is responsible for monitoring 2 - 3 respondents, at the last meeting a balanced menu practice (contents of my plate), while the control group, the intervention was given in the form of counseling 2 times using poster media and a demonstration of a balanced menu (contents of my plate). The time interval between the first and second counseling was one week.

RESEARCH RESULTS

Table 1 shows that the pre-test level of knowledge of adolescent girls about balanced nutrition, most (72.5%) in the peer education method treatment group and in the counseling method control group (92.5%) to "not enough" category. After the intervention, both the treatment group and the control group were mostly at enough category 95.0% (treatment) and 95.0% (control).

Table 1 . Sample Distribution of Knowledge Criteria (n=40)

Category	Pre Test		Post Test	
	n	%	n	%
Treatment				
Enough	11	27.5	38	95.0
Not enough	29	72.5	2	5.0
Control				
Enough	3	7,5	38	95.0
Not enough	37	92.5	2	5.0

Table 2 shows that in the treatment group the percentage of adolescent girls before being given peer education intervention (pre test) had a negative attitude of 62.5%, while in the control group in adolescent girls before being given intervention in the form of counseling (pre test) amounted to 90%. After being given peer education intervention (post test) in the treatment group the percentage of adolescent girls who had a positive attitude increased by 95%, while in the control group adolescent girls who were given intervention in the form of counseling had a positive attitude increased by 30%,

Table 2 . Sample Distribution of Attitude Criteria (n=40)

Category	Pre Test		Post Test	
	n	%	n	%
Treatment				
Positive	15	37.5	38	95.0
Negative	25	62.5	2	5.0
Control				
Positive	4	10.0	12	30.0
Negative	36	90.0	28	70.0

Table 3 shows that the pre-test results of the ability of adolescent girls to practice balanced nutrition, all in the enough category (100%) in the treatment group and control group. After the intervention in the treatment group experienced an increase in practical skills, most (70%) in the

moderate category while in the control group there was no change in practical skills 80% in the not enough category.

Table 3. Sample Distribution of Practice Criteria (n=40)

Category	Pre Test		Post Test	
	n	%	n	%
Treatment				
Enough	0	0.00	28	70.0
Not enough	40	100.0	12	30.0
Control				
Enough	0	0.00	8	20.0
Not enough	40	100.0	32	80.0

Table 4. Difference Test in the Treatment Group (*Peer Education*)
With Control Group (Counseling)

	Post Knowledge	Post Attitude	Post Practice
Mann-Whitney U	276,000	201,500	472,500
Wilcoxon W	1096,000	1021,500	1292,500
Z	-5.171	-5,888	-3,210
asympt. Sig. (2-tailed)	,000	,000	,001

a. Grouping Variable: Group

Table 4 shows that there is a significant difference in the level of knowledge of adolescent girls after being given intervention in the peer education method treatment group and the counseling method control group $p = 0.000$ ($p < 0.05$), there is a significant difference in changes in the attitude of adolescent girls in the peer education method intervention group with the counseling method control group obtained results $p = 0.000$ ($p < 0.05$). There was also a significant difference in the practical ability of adolescent girls in the intervention group with the control group $p = 0.001$ ($p < 0.05$).

DISCUSSION

The results showed that there was a significant difference in the level of knowledge of adolescent girls after the intervention between the treatment group of peer education method and the control group of counseling method $p = 0.000$ ($p < 0.05$). These results are in line with the results of research at SMK Korpri Majalengka, there is an effect of peer education on adolescent knowledge about HIV-AIDS prevention. Peer group education is carried out between peer groups guided by facilitators who also come from the group itself (Astari & Fitriyani, 2019). Another related study at SMUN 4 Soppeng City found that peer educator training was effective in increasing respondents' knowledge about Metabolic Syndrome in adolescents (Jafar, Indriasari, Syam, & Kurniati, 2018). Another study that also provides the effect of peer education on knowledge is a study conducted at the Astambul Health Center where peer education has an influence on knowledge about pregnancy in the class of pregnant women (Rusdiana & Maria, 2020).

Provided knowledge and understanding of balanced nutrition through peers, formed the basic characteristics of a peer counselor, increased sensitivity to the surrounding environment, helped manage various existing problems (Salmiati, Hasbahuddin, & Bakhtiar, 2018). Peer education for adolescents can be more open and confident in conveying their thoughts because adolescents already feel familiar with the peer educators, so there is no fear of each individual asking questions or giving opinions (Utari et al., 2019).

The results showed significant differences in the attitudes of adolescent girls after being given intervention in the peer education method treatment group and the control group counseling method $p = 0.000$ ($p < 0.05$). These results are in line with research in Pandes Village, Klaten District, Klaten Regency, there is a significant effect of peer education on the attitudes of adolescent girls in preventing anemia at the integrated service post for adolescents (Utari et al., 2019).

Peer groups can have many similarities. Such similarities allow peers to accept each other's viewpoints. Because teens often identify with their peers, presenting messages through these peer networks can increase the effectiveness of an education program's goal (Youth Tech Health, 2015). Research at SDN 37 Bengkulu City found that peer group education influenced the knowledge and attitudes of primary school children (Sibarani et al., 2019). Likewise the results of research at MTS Negeri 1 Bandung City that the implementation of peer education increases the knowledge, attitudes and self-efficacy of young women about puberty (Legiati et al., 2019). According to (Akbarini & Siregar, 2018) through the peer education method can increase student knowledge comprehensively. Attitude is a person's closed response to a certain stimulus or object that involves a person's opinion and emotion factors, attitudes have a tendency to act or practice (Irwan, 2018).

Implementation and evaluation of peer education support programs in secondary schools for stunting prevention behavior through the implementation of balanced nutrition among adolescents. A person's attitude cannot just change without an underlying process. Through peer education, there will be a process of changing one's way of thinking because there is an open dialog or discussion to express their respective opinions (Astari & Fitriyani, 2019). The results showed that there was a significant difference in the ability of balanced nutrition practices of adolescent girls in the peer education method treatment group and the control group in the counseling method $p = 0.001$ ($p < 0.05$). These results are in line with research conducted by Saifah, et al (2019) it is known that the value of $p < 0.001$ means that there are significant differences in the nutritional practices of the respondents before and after being educated by peers about healthy eating behaviors and physical activity. Peers are the most important socialization agents in the lives of school-age children, they can be empowered as educators because they have a stronger influence than the family on food selection, and children's eating patterns (Saifah et al., 2019).

Supporting factors for better nutritional behavior change in respondents after being given peer education are educators who have attended training so that they have basic skills as educators and have good self-confidence, using style and language according to group members so that they are easily understood by group members (respondents). Peers can provide modeling practice because they are very similar to the behavior and style of their group members. Peers have a greater influence in conveying information while professionals are often unable to do so because peers are faster to enter and adapt to the population because their language style and appearance and desires tend to be the same (Saifah et al., 2019).

CONCLUSIONS AND RECOMMENDATIONS

The level of knowledge, attitudes and practices of adolescent girls differed between the peer education method treatment group and the counseling method control group. The peer education program can be used as an optimization of the role of adolescent girls in the School Health Effort activities to improve the level of knowledge and behavior about balanced nutrition in the future.

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