

PERMAINAN ULAR TANGGA SEBAGAI MEDIA EDUKASI PEDOMAN GIZI SEIMBANG TERHADAP PENGETAHUAN DAN SIKAP SISWA MADRASAH IBTIDAIYAH NURUSSALAM

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ABSTRACT

Elementary School children (7 – 12 years old) are the age group who still experiencing growth and development also adequate nutritional that suitable to support it. Children having poor eating habits lead to many nutritional need can not be fulfilled optimally. To optimize the promotion of balanced nutrition message to the community, community-based Communication, information, and education are needed. The role of nutrition education by using media is to help the proses of sending nutritional messages and motivate the target person so that the nutritional message given can be well recived. Method : used quasi experimental with pre-post test control group design with respondents each group 41 students. The analysis data was tested using Wilcoxon and Mann Whitney. There was significant differences in the knowledge and attitude average of snake and ladder Media group from pretest and posttest ($p=0.003$) and ($p=0.006$). There was significant differences in the knowledge in the media lectures from pretest and posttest ($p=0.000$) difference and there was no significant difference in the attitude ($p=0.442$). There was no significant difference of knowledge between snakes and ladders with a lecture ($p=0.063$) and there was a significant difference in the attitude ($p=0.014$). The snake-ledder game media with lecture method increase the knowledge and attitude. But the lecture methode only increased the knowledge.

Keywords: attitude, balanced nutrition guidelines, knowledge, snakes and ladders game.

INTRODUCTION

Elementary School children (7 – 12 years old) are the age group who still experiencing growth and development and needs adequate nutritional that suitable to support their growth and development. At this time children have poor eating habits so that many nutritional need can not be fulfilled optimally (Marisa dan Nuryanto, 2014). The results of baseline health research (Riskasdas) 2013, showed that national prevalence of stunted children aged 5-12 years was 30.7%. The prevalence of thinness (according to body mass index (BMI/A) was 11.2%.

To prevent the emergence of these nutritional problems, Need to be socialized guidlines of balance nutrition that contain four pincipels among of eating many kind foods, physical activity, clean living and maintaining a normal body wight. To optimize the promotion of balance nutrition message to the public, are needed accurate communication, information, and education and basic on community.

The role of nutrition education by using media is to help the proses of sending nutritional messages and motivate the target person so that the nutritional message given can be well recived (Cita,

2014). Snake and ladder game if effective to improve the knowledge about fruit and vegetable especially at Islamic Junior High School (MTs-S) almanar (Handayani at all, 2018).

Nurussalam Islamic Elementary School of islamic education under the supervision Gontor lacated at East Java. By the explanation above, the author interest to take the title in thus study is the effect of

METHOD

Design, Location and Time of Researsch

Desain research used quasi experimental with pre and post test design. The location of this study was in Nurussalam Islamic Elementary school in November 2019 – December 2019.

Number of Sample

In determining the sample size, the population number (N) can be recognized from the list of the number of students in grades 5 and 6 Nurussalam Islamic Elementary School amounted to 130. The way to determine the sample is to use a large sample for the average difference between the two independent groups, namely:

$$n = \frac{2\sigma^2 [Z_{1-\alpha/2} + Z_{1-\beta}]^2}{(\mu_1 - \mu_2)^2}$$

Information :

n = sampel

σ = standard deviation

α = 5%, then the value of $Z_{1-\alpha/2} = 1,96$
(from table – Z)

$1-\beta$ = 80%, then the value of $Z_{1-\beta} = 0,84$
(from table – Z)

$$n = \frac{2\sigma^2 [Z_{1-\alpha/2} + Z_{1-\beta}]^2}{(\mu_1 - \mu_2)^2}$$

$$n = \frac{2 \times 43,74 [1,96 + 0,84]^2}{(4,3)^2}$$

$$n = \frac{2 \times 43,74 [1,96 + 0,84]^2}{18,5}$$

$$n = 37,07$$

Plus 10% to anticipate dropout of 3.7

So based on calculations, then a sample size in this study amounted to 37 + 3.7 is 41 respondents each group.

snakes and ladders game as media education for balanced nutrition guidelines on the knowledge and attitudes among Nurussalam Islamic Elementary School student. This research is to know the effect of snake and ladder game as an educational media of balanced nutrition guidelines on knowledge and attitudes among Nurussalam Islamic Elementary School students.

Data Collection and Instruments Technicques

Technicquest are questionnaire sheet about characteristic of responden, questionnaire sheet ababout knowledge and attitude, and media of nurtition education in the form of snake and lader game. This study was licenged and declared ethical passed by ethics commission on the medical faculty of Muhammadiyah University of Surakarta with ethics Number 2663/B.1/KEPK-FKUMS/I/2020.

Data Analysis Methode

Data obtained during data collection will be examined (editing), coding, and tabulating. when of editing the data that has been collected from the questionnaire, it is checked again in relation to the number and contents of the questionnaires. If there are questions that are unclear or not filled in then it can be asked backto th respondent. Coding is done to facilitate the processing of data. Respondents in the study group used the code P while the control group used the code K, to distinguish the respondent characteristics and the numeric code to facilitate the data tabulation. The statistical test used in this study is wilcoxon (test for two samples paired and unpaired).

The statistical test used in this study was wilcoxon test to determine the effect of counseling with snakes and ladders game at the level of knowledge of balanced nutrition guidelines and mann whitney test to determine the effect of counseling with

lectures on the level of knowledge of balanced nutrition guidelines. The confidence value used is 95%, so the significance value (α) is 0.05. If the result

of p value < 0.05 , then H_0 is Rejected and H_1 is accepted.

RESULTS AND DISCUSSION

Table 1. Frequency Distribution of Respondents Characteristics

Characteristics	Experiment Group		Control Group	
	n	%	n	%
Age of responden				
10	10	24.39	16	39.02
11	23	56.09	13	31.70
12	8	19.52	12	29.28
Gender of responden				
Male	11	26.82	20	48.78
Female	30	73.18	21	51.22
Total	41	100	41	100

Frequency distributions of the most reponden characteristic in the experimental group was 11-year-old (56.09%) And in the control group that most was 10 years old of (39.02%). Based on gender, the Univariat Analysis

highes frequency distribution of the most characteristic respondents of the female in experimental group were 30 people (73.18%) and in the control group the most were of 21 people (51.22%).

Table 2. Results of Univariate Analysis on Experimental And Control Groups

Category	Experimental Group				Control Group			
	Pre-Test		Post-Test		Pre-Test		Post-Test	
	n	%	n	%	n	%	n	%
Knowladge								
Good	34	82.9	41	100	27	65,8	34	82.9
Fair	6	14.6	0	0	14	34.14	7	17.07
Less	1	2.4	0	0	0	0	0	0
Attitude								
Good	36	87.8	36	87.8	34	82.92	32	78.04
Fair	5	12.9	5	12.9	7	17.07	9	21.95
Less	0	0	0	0	0	0	0	0
Total	41	100	41	100	41	100	41	100

In the experimental and control group, the level of knowledge of respondents during pre-test (before being given counseling with snake and ladder

media and lecture metode) is mostly well-informed as much as 34 respondents (82.9%) and 27 respondents (65.8%). Results of knowledge post-test on balanced

nutrition guidelines in the experimental group (after given the extension of snake and ladder media) all respondents had a good level of knowledge of 41 respondents (100%). This figure was indicate a change in the experimental group from before and after given counseling with snake and ladder media. The results of the knowledge post-test on the balanced nutrition guidelines on the control group (after the discourse of lecture method) Some of the respondents in the control group who had a good knowledge increased to 34 respondents (82.9%) and fair category were 7 respondents (17.07%).

The results of attitude pre-test in the experimental group, 87,8% had a good attitude assessment, as many as 36 respondents and respondents who had

enough attitude assesment were only 5 respondents (12.9%). The result of the post-test assesment of the attitude of experimental group were found to be unchanged with of 36 respondents (87.8%) and respondents who had enough attitude assesment were only 5 respondents (12.9%). The results of the pre-test score in the control group 82.92% had a good attitude of 34 respondents and respondents who had a negative attitude assessment of 7 respondents (17.07%). The result of the post-test of attitude assesment in the control group decreased with respondents who had a positive attitude to 32 respondents (78.04) and who had an enought attitude assesment of 9 respondents (21.95%).

Bivariate Analysis

Table 3. The Students Level of Knowledge Before and After Intervention Using Snakes And Ladders Media In The Experimental Group

	Median (minimum-maximum)	P-value*
Knowledge before Intervention (n=41)	82,9 (49,5-99)	0.003
Knowledge after Intervention (n=41)	88,6 (77-99)	

*Wilcoxon test, 7 subjects knowledge score decreased, 8 fixed, and 26 increased.

Bivariate analysis in this study was meant to know the effectiveness of snake and ladder media to the difference in students knowledge about balanced nutrition guidelines before and after given interventions on the experiments group of and differences and students knowledge of the balanced nutritional guidelines after being given pretests and postets in the control groups. the median value of knowledge of the student experimental group at the time of pre-test was 82.9 with a minimum-maximum score of 49,5 - 99 and at the time of the post-test of 88.6 with

a minimum-maximum score of 77 - 99. The knowledge change was significant with p value = 0.003 which means that statistically were significant differences in knowledge between before and after counseling using snake and ladder game media. Wilcoxon test results showed that between the pre-test and post-test the experimental group, there were 7 respondents experienced a decrease in knowledge scores, 8 fixed respondents and 26 respondents increased.

Table 4. Level of Student Knowledge Before and After Intervention Using The Lecture Method in The Control Group

	Median (minimum-maximum)	P-value*
Knowledge before Intervention (n=41)	76,3 (55-99)	0.000
Knowledge after Intervention (n=41)	84,5 (60,5-99)	

*Wilcoxon test, 4 knowledge subjects decreased, 8 fixed, and 29 increased

The median value of knowledge of students in the experimental group at the time of pre-test was 76.3 with a minimum-maximum score of 55 - 99 and at the time of the post-test of 84.5 with a minimum-maximum score of 60,5 - 99. The knowledge change was significant with p value = 0.000 which mean that statistically there were significant differences of

knowledge between before and after counseling using the lecture method. The result of Wilcoxon's statistical tests showed that between the pre-test and post-test the control group, 4 respondents a decrease in knowledge scores, 8 fixed respondents and 29 respondents increased.

Table 5. Level of Assessment Students Attitudes Before and After Intervention Using Snake and Ladder Media in The Experiment Group

	Median (minimum-maximum)	P-value*
Assessment of attitudes before Intervention (n=41)	59,8 (50-68)	0.006
Assessment of attitudes after Intervention (n=41)	62 (50-72)	

*Wilcoxon test, 11 subject of decline, 1 fixed, 29 increases

The median value of student attitudes in the experiment group at the time of a pre-test was 59.8 with a minimum-maximum score of 50 - 68 and at the time of post-test of 62 with a minimum-maximum score of 50 - 72. The change in attitude assessment was

significant with the P value = 0.006 which mean statistically there were a significant differences in attitude assessment before and after the counseling using snake and ladder media.

Table 6. Level of Assessment of Student Attitude Before and After Intervention Using Snakes and Ladders Media in The Control Group

	Median (minimum-maximum)	P-Value*
Assessment of attitudes before Intervention (n=41)	57,8 (43-65)	0.442
Assessment of attitudes after Intervention (n=41)	58,4 (50-67)	

*Wilcoxon Test, 18 subject of knowledge decreases, 2 fixed, and 21 increases

The results of the statistical test using Wilcoxon showed that between the pre-test and post-test the experiment group, there were 11 respondents experienced a decrease in attitude score, 1 fixed respondent and 29 respondents increased. The increase of media score is allegedly reapitation of playing snake and ladder game done 3 time during a week, that the respondent remember more the message are delivered in each coloum of snake and ladder game. the median value of a student attitudes in the control group at the time of a pre-test was 57.8 with a minimum-maximum score of 43 - 65 and at the time

of a post-test of 58.4 with a minimum-maximum score of 50 - 67.

The change in attitude assessment was not significant with P Value = 0.0442 (> 0.05) which mean that statistically there were no difference in the assessment of attitudes between before and after counseling using the lecture method. The results of the statistical test Wilcoxon showed that between the pre-test and post-test the control group, there were 18 respondents experienced a decrease in attitude score, 2 fixed respondents and 21 respondents increased.

Table 7. Mann Withney Test Results on The Level of Student Knowledge

	Median (Minimum-maximum)	P-value*
Knowledge assessment with snake and Ladder media (experiment) (n=41)	88 (77-99)	0.063
Knowledge assessment with lecture method (control) (n=41)	88 (60,5-99)	

*Mann-Withney test. Average of snake and ladder media (Experimental Class) 46.18; And no snake ladder media intervention (Control Class) 36,82.

Table 8. Mann-Withney Test Results on the Assessment Student Attitudes

	Median (Minimum-maximum)	P-value*
Attitude assessment with snake and Ladder game media (experiment) n=41)	62 (50-72)	0.014
attitude assessment with lecture method (control) (n=41)	59 (50-67)	

*Mann-Withney test. Average of snake and ladder game media intervention (experimental Class) 47,93; and without snakes ladders media (Control Class) 35,07.

Statistical test results using Mann Withney after the intervention obtained a significance value of 0.06, This indicated that there was no significant differences in post-test results between the experimental group and the control group. Statistical test results using of Mann Withney after the

intervention obtained the significance value of 0.01, this indicated that there was a significant difference of post-test results between the experimentalgroup and the control group.

DISCUSSION

Nutrition knowledge is part or a component related to health care attitude (Spronk et al. 2014). At the level of knowledge of students before and after the intervention using snake and ladder media in the experimental group majority of respondents had good knowledge (34 respondents), a small part were in sufficient knowledge (6 respondents) and none had less knowledge. There were a significant differences between pre-test and post-test values. This suggests that snake and ladder game can improve the knowledge of balanced nutrition guidelines in experimental group respondents. The research was synergistic with the research of Anindita (2017) and Irma, et al (2017) which is the result of increased knowledge after the intervention of snake and ladder game media.

According to Notoatmodjo (2015) knowledge is a result of human sensing or a result of the idea of a person after sensing a certain of a particular object. At the level of student knowledge before and after the intervention using the lecture method in the majority control group respondents had good knowledge (27 respondents), a small part of which were fair knowledge (14 respondents) and none had less knowledge.

There were significant differences between the pre-test and post-test values. This showed that the lecture method can improve knowledge of balanced nutrition guidelines in the control group respondents. The results were in accordance with the research of Marisa and Bambang (2016) which results in increased knowledge after the intervention with the lecture method. According to Susanti (2016), 45% of the children's time when receiving information is used for listening, 9% writing, 16% reading, and 30% speaking.

This indicated that listening is very important in receiving nutrition education. The results of the study which showed an

increase and decrease in the value of nutrition knowledge showed the process of listening to was information different for each respondent. There was no significant difference between the introduction of the counseling using the snake and Ladder game media and lecture method. In other words, either snake or ladder media or lecture method can be used as educational media to improve knowledge

Attitudes are a collection of symptoms or syndromes in responding to a stimulus or an object, thus involving thoughts, feelings, concerns, and other psychiatric symptoms (Wawan and Dewi, 2010). At the level of assessment of students attitudes before and after intervention using snake and ladder media in the experimental group the majority of respondents had a good attitude assessment of 36 respondents (87.8%) those who had a enough attitude assessment of 5 respondents (12.9).

There were significant differences between pre-test and post-test values. This suggests that snake and ladder games can influence the attitude about balanced nutrition guidelines in the experimental group respondents. This is in line with the research of Muhammad, et al., (2014) stating that changes in the value of attitudes really occur due to the treatment of health education with the snakes and ladders method. At the level of student assessment before and after the intervention using the lecture method in the control group, the majority of respondents had a good attitude assessment of 34 respondents (82.92%) and fair 7 respondents (17.07%). This indicated that the majority of the respondents have known or been exposed to information about balanced nutrition guidelines.

There were no significant differences between the pre-test and post-test values. This indicated that the lecture method could not influence the attitude about balanced nutrition guidelines in the

group respondent. There was a significant difference between providing counseling using the snake and ladder game media and lecture method. In other words, snake and ladder media is more effectively used as an educational media to improve attitudes.

CONCLUSION

Based on the results and the discussion, it can be concluded that :

1. There was an effect in the knowledge change between pre-test and post-test in the experimental group ($p=0.003$). There was an effect between pre-test and post-test Attitude ($p=0.006$).
2. There was an effect between pre-test and post-test knowledge of student in the control group ($p=0.000$). There was no effect between pre-test and post-test attitude ($p=0.442$).
3. There was not difference in the knowledge between the experimental group and the control group ($p=0.063$).
4. There was difference in the attitude changes between the control group and the experimental group ($p=0.014$).

SUGGESTIONS

From the conclusion of the research conducted, there are some suggestions addressed to parties who have an interest, including:

1. For Nurussalam Islamic Elementary School. Need to improve and understand the information obtained about balanced nutrition guidelines so that it can apply it in everyday life. Information about balanced nutrition guidelines can be obtained from trusted media and ask teachers or parents so that they can increase positive attitude.

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2. For schools health education needs to be implemented in effort to introduce balanced nutrition guidelines. The use of snake and ladder media should to be considered in the way to providing education to students
3. For further research, can examine the behavior of the application of balanced nutritional guidelines in daily life to respondents who have been given an intervention. In order to find out whether or not there is a change in behavior after getting intervention with snake and ladder game media.

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