THE INFLUENCE OF MEDIA AUDIO LEARNING ON IMPROVING KNOWLEDGE AND ATTITUDES ABOUT NUTRITION AND HEALTH INFORMATION FOR THE BLIND PEOPLE AT ELSAFAN FOUNDATION, EAST JAKARTA.

I Made Sulang Aryawan[1], Vitria Melani[2], Mury Kuswari[2], Rachmanida Nurzrina[2]

[1] Nutrition Science Program, Faculty of Health Sciences, Esa Unggul University of West Jakarta

[2] Nutrition Science Program, Faculty of Health Sciences, Esa Unggul University of West Jakarta

Email: sulang.management1@gmail.com

ABSTRACT

Blind people experience barriers of vision in obtaining information during the learning process. Based on the characteristic of health education targets, the media audio learning of nutrition in the form of audio is chosen as education media of nutrition. Media audio learning to know the information of balanced nutrition, vegetables and fruit, and information about physical activity. To examine the influence of media audio learning on knowledge and attitude improvement about nutrition and health information among blind people at Elsafan Foundation, East Jakarta. This study was a quasi experimental study, with total sampling technique obtained 21 respondents. Analisis using Wilcoxon Test. The most of the sex of the sample is male. The age distribution of almost half of sample age ranged from 16-18 years old and 19-29 years old. Almost half of sample education is SDLB A. Based on the results can be seen that there are significant differences $p = 0.0001$ ($p \leq 0.05$) on the score of knowledge and attitudes of respondents between pre-test with post-test 1, post-test 2, and post-test 3 to the audio media. There is influence of media audio learning on knowledge and attitude improvement about nutrition and health information for the blind people at Elsafan Foundation, East Jakarta.

Keywords: Nutrition Education, Media Audio Learning, The Blind People

PRELIMINARY

Indonesia is a developing country with furth human population in the world, of course, with more than two hundred million people should also be based on healthy living behavior (Agency, 2017). Healthy living behaviors are all self-awareness behaviors to help themselves, families and communities to safeguard, protect and promote health.

Currently, Indonesia is facing serious challenges in the form of double burden of disease. Changes in community lifestyles are suspected to be one cause of the shift in disease patterns (epidemiological transition) in the last 30 years. In the 1990s, the biggest causes of death and illness were infectious diseases such as upper respiratory infections (ARI), tuberculosis (TB), and diarrhea (Riskesdas, 2013). But since 2010, non-communicable diseases (PTM) such as stroke, heart, and diabetes have a larger proportion in health care. This shift in the pattern of the disease has resulted in a burden on state health financing (Kemenkes, 2017).

The Ministry of Health of the Republic of Indonesia together with the Government launched the Healthy Life Society Movement (Germas) on 27 February 2017. This program is made in order toaccelerate and synergize the action of promotive and preventive efforts of healthy life (Kemenkes, 2017). One of the content of the program is the provision of healthy food and the acceleration of nutrition improvement. In order to achieve the goals of Germas in a more focused and focused, then each year made some focus of the activities of Germas. In 2017, the focus of Germas is to do physical activity, consumption of vegetables and fruits and check health regularly (Dinkes, 2017). This government program is intended for families and especially adolescents to be able to practice healthy lifestyle everyday.

Teenagers are the nation's successor in national development. Therefore, it is necessary to get the guidance and improvement of health level, so that the survival and development, both physical and mental, known as the process of growth and development can take place optimally. The nutritional problems often encountered by adolescents are multiple nutritional problems, namely less nutrition and more nutrition. In addition, anemia also becomes another problem of adolescents due to inappropriate nutritional intake. One of the multiple nutritional problems mentioned earlier is more nutrients. More nutrition is a health problem for children, adolescents, and adults in developing countries (Fauzi, 2012).

According to WHO in 2009, 1 out of 10 school children are overweight. About 30 million to 45 million children suffer from obesity. It is estimated that 2-3 percent are aged 5-17 years. While in Indonesia, based on Riskesdas data in 2010, it is known the prevalence of adolescents aged 13-15 years who have weight body fat of 2.9 percent in

men and 2 percent in girls. In addition to obesity, less nutrition problems are also faced by adolescents. From the Riskesdas data in 2010 it appears that the prevalence of 13-15 year old teenagers who weighs 12.4 percent in males and 7.7 percent in women.

An unhealthy diet in adolescents today, occurs due to lack of nutritional knowledge resulting from improper and improper delivery of health information. Especially during this time adolescents are experiencing a period of identity and identity search by imitating the behavior of someone who is a role model for them. In addition, there are also teenagers who have a habit of low-nutritional snack food consumption, fast food consumption habits, the habit of not breakfast, and lazy to drink water.

Addressing the problem, Ministry of Health has issued Balanced Nutrition Guideline (PGS) which contains 10 General Message. Information on PGS should be known and delivered properly and correctly. People are less familiar with PGS messages than the slogan "4 Sehat 5 Sempurna". This is in line with the results of the initial observations made on 41 students at the Elsafan Foundation and obtained the idea that no student knows PGS as a balanced nutrition guideline. The students are more familiar with the term "4 Sehat 5 Sempurna" which is no longer used as a guideline of balanced nutrition.

Seeing the importance of Nutrition Information by all levels of society, especially adolescents and see there are many problems Nutrition that occurred to make the writer moved to provide focused nutrition education for the blind children. Blind children themselves tend to have the same risks as other normal children to experience nutritional problems, because of the lack of knowledge of nutrition so it is necessary nutrition education along with the right media to improve knowledge of the importance of nutrition in children with visual impairment (Ellyza, 2014).

Nutrition knowledge is very important for everyone. Lack of nutritional knowledge or the ability to apply such information in everyday life is an important factor in nutritional problems, therefore it is necessary the right media to make it easier to get information (Hermina, 2009).

Media information such as audio media in education has been widely used but, audio media in the form of voice recording of nutrition education for children with visual impairment is still not developed much. The importance of nutrition knowledge especially among blind children requires children to get nutrition education with appropriate media. The development of audio media in the form of sound recordings is expected to convey nutritional information in the blind child (Ellyza, 2014).

Based on the results of a preliminary survey conducted at the Elsafan Foundation, East Jakarta through one of the speakers, mentions that there is still a lack of good nutrition information for the blind children in the foundation and food managers who provide daily food, so the authors are interested in conducting research on "Media Influence Audio Lessons on Changes in Knowledge and Attitudes About Nutrition and Health Information for the Blind People at the Elsafan Foundation, East Jakarta ".

RESEARCH METHODS

The type of research used is pre experiment/quasi experiment with one group pretest posttest design approach. This research was conducted at Elsafan Foundation, East Jakarta. Sampling in this study was conducted with total sampling because of the limited population, which was 21 respondents. Data source in this research is primary data and secondary data. The instrument used is a questionnaire, with the previous through the validity test of reliability. For data retrieval technique in this research is by observation method, interview method, and method of documentation.

The number of questionnaires of knowledge of 21 questions and attitude questionnaire as many as 22 questions. Questionnaire question is asked in the form of a recording of the matter which then the recording is listened to then answered, each item will be heard or repeated as much as two repetitions, then respondents answer on each answer sheet.

The first phase pretest on knowledge and attitudes, conducted for 30 minutes. Seven days later conducted posttest 1 with the same questionnaire with the pretest, before respondents were given media audio nutrition and health. Intervention is done by using the Software Application (Audio Recording), where the respondent download for free and listen directly via mobile phone/computer/laptop. This audio recording contains balanced nutrition information, the adequacy of vegetables and fruits and physical activity. Two weeks after the pretest, respondents do a second posttest. Posttest data retrieval to two interventions given three times a meeting prior to posttest to two. After the first and second post-tests by controlling the intervention schedule, meals on the third posttest are not controlled, the children are released for free to listen to the media or not at all.

The data analysis is univariate and bivariate. Analysis of univariate data to see respondent's characteristic and distribution of knowledge score and attitude. Bivariate analysis to test the hypothesis is done normality test first. Normality test data is done by statistical test Shapiro-Wilk and obtained the result that is not abnormally distributed

data so that can be done by Wilcoxon Test statistical test.

RESEARCH RESULT

On February 7, 2006, the Elsafan Foundation stood through the idea of Ritson Manyonyo's brother, Sth. (A blind person who experienced blindness in 1999)

On October 30, 2008, obtained the Foundation Operations License from the Ministry of Social Affairs. On March 24, 2010, obtained the license for the establishment of the Elsafan Handicapped Children Social House from the Social Service of DKI Jakarta Province. On July 10, 2012, obtained the License Principle of SLB A & A + Elsafan from the Education Department of DKI Jakarta Province.

ANALYSIS OF UNIVARIAT

Based on table 1 shows that most of the sex of the sample were men as many as 15 people (71.4%). The age distribution was almost half the age of the sample ranged from 16-18 years old and 19-29 years old as many as 7 people (33.3%). The level of education is half of the sample education of SDLB A as much as 9 (42.9%) .

Table 1.

Distribution of Gender, Age, and Education

Variables	n	%
Gender		
Man	15	71.4
Women	6	28.6
Age of Respondents		
10-12 years	2	9.5
13-15 years	5	23.8
16-18 years	7	33.3
19-29 years old	7	33.3
Education		
SDLB A	9	42.9
SMPLB A	8	38.1
SMALB A	4	19.0
Total Sample	21	100.0

Based on the normality test, the data obtained from the *Shapiro-Wilk* results *are* known in the *pre-test, post-test* 1, *post-test* 3 is not normally distributed then it is done by nonparametric test using median value. Data that has a normal distribution that is on *Post-test* 2 is done parametric statistical test using the mean value.

Based on Table 2 note that all respondents viewed from the minimum score of respondents experienced an increase in score after and before the audio media intervention was given.

Table 2.
Distribution of Knowledge Score on Audio Media

Indicator	Audio Media Blind			
	Pre-test	*Post-test 1*	*Post-test 2*	*Post-test 3*
Mean	-	-	92.86	-
Standard Deviation	-	-	5.189	-
Median	57.00	76.00	-	91.00
Standard Error	3,021	1.941	-	0.995
Minimum	38	67	81	81
Maximum	81	95	100	95

Based on the normality test, the data obtained from the *Shapiro-Wilk* results *are* known in *post-test* 1, *post-test* 2 and *post-test* 3 is abnormal distribution then it is done by nonparametric test k using median value. Data that has a normal distribution that is on the *pre-test* parametric statistical test using the mean value.

Table 3.
Distribution of Attitude Score on Audio Media

Indicator	Audio Media Blind			
	Pre-test	*Post-test 1*	*Post-test 2*	*Post-test 3*
Mean	72.96	-	-	-
Standard Deviation	11454	-	-	-
Median	-	86.00	100.00	96.00
Standard Error	-	1.270	0.709	0.687
Minimum	46	73	91	91
Maximum	91	96	100	100

Based on Table 3 known that all respondents viewed from the minimum score of respondents experienced an increase in scores after and before given audio media intervention.

BIVARIATE ANALYSIS

Bivariate analysis was conducted to see the effect of knowledge and attitude before and after intervention. Based on table 4 it can be seen that there is a significant difference p value = 0.0001 ($p \leq 0.05$) on the scores of respondent knowledge between *pre-test* with *post-test* 1 with median value increase of 19.00.

On the results between the *pre-test* with *po st-test* 2 there was a median increase of 38.00. In the *pre-test results* with *post-test* 3, there was a median increase of 34.00.

Table 4.

Influence Analysis of Knowledge Score Before and After Given Audio Media

Audio Media Blind	*Median* ± SE	*P* value
Pre-test	57.00 ± 3.021	0.0001 *
Post-test 1	76.00 ± 1.941	
Pre-test	57.00 ± 3.021	0.0001 *
Post-test 2	95.00 ± 1.132	
Pre-test	57.00 ± 3.021	0.0001 *
Post-test 3	91.00 ± 0.995	

* there is a significant influence (p≤0.05)

Based on table 5 it can be seen that there is a significant difference of p value = 0.0001 (p≤0.05) on attitude score of respondent between *pre-test* with *post-test* 1 to audi media o happened median value increase equal to 9.00.

On the results between *pre-test* and *post-test* 2 there was a median increase of 23.00. In the *pre-test results* with *post-test* 3, there was a median increase of 19.00.

Table 5.

Influence Analysis of Attitude Score Before and After Given Audio Media

Blind Nutrition Media	*Median* ± SE	*P* value
Pre-test	77.00 ± 2.487	0.0001 *
Post-test 1	86.00 ± 1.270	
Pre-test	77.00 ± 2.487	0.0001 *
Post-test 2	100.00 ± 0.709	
Pre-test	77.00 ± 2.487	0.0001 *
Post-test 3	96.00 ± 0.687	

* there is a significant influence (p≤0.05)

DISCUSSION

Age

The age distribution of respondents who attend Elsafan Foundation is very diverse, seen from the distribution of age ranging from 12-27 years. The age of the respondent is not appropriate for the age level in the normal standard of the normal school, because the Special School (SLB) has different competencies with the normal school which results in the age of the respondent not in accordance with the normal level of education.

Unlike the integration / integrated system, blind children learn together with normal children (awas) by obtaining equal rights of duty.

Education

Special School (BlB) Blind, a school that only provides education services to children with visual impairment. Blind children have two sets of curriculum needs: first is a curriculum intended for students in general, such as: language, arts, mathematics, and social studies; second is which can

meet the specific needs as a result of its enriched core curriculum, such as: compensatory skills, social interaction skills, and career education skills (Humairo, 2013).

The tendency of IQ for blind children is on the upper limit to the lower limit. Blind children also have negative and positive emotions, such as sadness, joy, hate, disappointment, anxiety, happiness and so forth (Adriana, 2013).

The Improved Effect of Knowledge Score Before and After Given Audio Media

This study was conducted to determine the effect of audio learning media on the change of knowledge and attitude about nutrition and health information for the blind people at Elsafan Foundation, East Jakarta. It can be seen that there is significant difference p value = 0.0001 ($p \leq 0.05$) on respondent knowledge score between *pre-test* with *post-test* 1 to the audio media on the blind. This is also shown by a median increase of 19.00. In the *pre-test* results with *post-test* 2 there was a median increase of 38.00. In the *pre-test* result with *post-test* 3, there was a median increase of 34.00, although *post-test* 3 resulted in a decrease in median value, but when compared with *pre-test* result it can be said that there is still influence of knowledge increase that happened to media audio blind.

If we look at the distribution of false answers to the questionnaire of knowledge, it can be seen that from the three dominant materials the respondents are confused to answer on the sufficiency of vegetables and fruits. Unlike the case with balanced nutrition materials and physical activity, these two materials are more theoretical and practical so that the respondents have imagination and theoretical material is more likely to memory. Matter of sufficiency of vegetables and fruits is difficult to understand by the respondents because at all respondents never see from the shape and color. Therefore the imagination of reasoning to the material sufficiency of vegetables and fruits is less well understood at the time of *pretest*. Very good value improvement has been seen at *posttest* 1, *posttest* 2, until *posttest* 3.

This study is in line with what Delani (2016) did on the effectiveness of using "clear and easy splash" audio solutions to IPA learning outcomes in grade VII students at MTSLB Yaketunis Yogyakarta, showing that average *post-test* scores and *the pre-test* showed an increase with a *pre-test* average score of 65, and the mean *post-test* score was 82.5. From the data it can be seen that the learning outcomes have increased by 17.5.

Likewise in research conducted by Dariati (2015) research results show, firstly, there is influence of the application of learning practice audio media assisted on students' motor skills. Secondly, there is the influence of the application of audio media assisted teaching practices to the motivation of junior high school students in SLB A Negeri Denpasar.

Based on the results of the observation, respondents have slowness in the

visual event, the lesson count, information, and vocabulary of children less good in terms of understanding so it needs repetition.

It is seen that the influence of audio learning media on knowledge change can improve the respondent's understanding of Balanced Nutrition, Vegetables and Fruits as well as Physical Activity and create a learning environment that is suitable with the needs of blind children so that it can improve cognitive and develop information about nutrition.

Improved Attitude Improvement Impact Before and After Audio Media

Based on Attitude Score on Audio Media with median attitude score before being given intervention on pre-test is 77.00 with standard error 3,021. The minimum and maximum values in the pre-test are 46 and 91. It indicates that the attitude assessment of the given audio media is still low. Respondents find it difficult to understand the attitude questionnaire question so that some respondents chose inappropriate answers.

Seven days after the pre-test, researchers came back to intervene. Based on the results can be seen that there is a significant difference p value = 0.0001 ($p \leq 0.05$) on respondents attitude scores between pre-test with post-test 1 to the audio media on the blind. This is also indicated by a median increase of 9.00. On the results between pre-test and post-test 2 there was a median increase of 23.00. In the pre-test results with post-test 3, there was an increase of indian median of 19.00.

This attitude improvement is caused by the respondents feel motivated to know more about the material given so that the respondents look for more information after the intervention. Increased attitudes are defined as a very broad concept and focus on evaluative tendencies. Attitudes can also be viewed as long-term or short-term, volatile (possibly volatile) tendencies and may be altered (Gibney, 2009).

According to Moersintowati (2002) the result of the improvement of attitude as the effect of the increase of knowledge can be explained by the definition of stimulation that is stimulation and exercises on the intelligence of children from the environment outside the child. Media can help the achievement of educational goals that is behavior change where one of them includes attitude domain.

Another thing that proves the audio media is visually impaired is very influential in the memory of respondents. The long distance from the intervention to post-test 2 for two weeks did not make the respondent forget even though the post-test result 3 some respondents had decreased, this was due to the lack of intervention and the media should be sustained to be able to remember so that it can be knocked sweat to peers and people around.

This study shows an increase in attitude after being given blind audio media intervention, thus indicating that the blind audio media attracted the enthusiasm of children, knowing nutrition and health information that contains information Balanced Nutrition, Vegetable and Fruit

Sufficiency and Physical Activity is a new thing, so the child feels the need to know the information more deeply, and the information is well received by the children so that it is manifested in a positive attitude .

CONCLUSION

Based on the results can be seen that there are significant differences p = 0.0001 (p≤0.05) on the score of knowledge and attitudes of respondents between *pre-test* with *post-test* 1, *post-test* 2, and *post-test* 3 to the audio media on the blind.

SUGGESTION

Audio media in i so as a reference information for people with visual impairment that the intake of nutrients that are consumed should be good so have a healthy body and fit without seeing the limitations owned. The management is expected to always educate the importance of consuming balanced nutrition for foundation children.

REFERENCE

Arifatul. (2011). Development of Interactive Audio Media to Improve Communication Skills in Science Subjects for Blind Students of Class II at SDLB YPAB Surabaya. Journal of Technology Technology Students, Vol 1, No 2, 5-11.

Atik Khoiroh, P. P. (2014). The Role of Social Support for the Establishment of High Self Esteem in Blind Teenagers in Special Schools. Journal of Industrial and Organizational Psychology, Vol.3 No.3, 7-18.

Bayu. (2016). Development of Audio Media Device Embedded Maps (Peradiotim) Earth Forms Material for Blind Students at MTSLB-A Yaketunis Yogyakarta. Journal of Education Technology, Vol.1, 2-10.

Bhinnety, M. (2007). Short-Term Memory In Noisy Situations, Judging From The Aspects Of Direct And Indirect Memory Tests. Periodic Journal of UGM Postgraduate Research, Vol.11 (1A), 79-104.

Daryati. (2015). Effect of Audio Media Assisted Learning Practices on Motor Skills and Student Motivation Learning Smp In Slb A Negeri Denpasar Lesson 2014/2015. e-Journal Postgraduate Program of Ganesha University of Education, 5, 1-10.

Delani. (2016). Effectiveness of Audio Media Usage "Smart And Easy Smart Solution" (Splash) on Learning Outcomes of Ipa In Class VI Students At Mtslb Yaketunis Yogyakarta. Yogyakarta. Yogyakarta State University

Ekayanti I, B. D. (2013). Differences in Use of Education Media to Change Knowledge and Attitude of Mother in Breakfast of Primary School Children in Bogor Regency. Journal of Nutrition and Food, Vol. 3, 109-114.

Ellyza, U. I. (2014). Effectiveness of Booklet Braille Media in Improving Nutrition Knowledge in Blind Children. Unnes

Journal of Public Health. Vol 3. 05-14

Fibriana. (2011). Relationship Between Attitudes With Family Behavior About Prevention of Tuberculosis Contagious Diseases. Journal of Nursing. Vol 1/1, 12-20.

Hernia., N. A. (2009). Factors Affecting Morning Eating Habits in Young Women in Junior High School, Journal of Eating Nutrition Research. 94-100.

Hidayat, T. &. (2009). Trial of Application Guidelines Formulation of Common Balanced Nutrition Message (PUGS) In accordance with Regional Conditions, Journal of Eating Nutrition Research. 16-21.

Hidayati. (2014). Development of Audio Media Characteristics Of Organism Song Education (Chosen) On Science Learning Biology At SMPLB-A (Tunanetra). Unnes Journal of Biology Education Vol. 3, 156-163

Humairo. (2013). Learning Model of Auditory, Intellectually, and Repetition on Mathematics Subjects in Class VIII Students MTsN 2 Bukit Tinggi. Journal of Special Education, 2-5.

Ministry of Health. (2017). The Importance of Cross-Sectoral Roles For The Realization of Germas. Ministry of Health, Vol.2, 1-2.

Khairani, M. (2016). Media Flashcard Braille On The Ability Of Reading The Beginnings Of Blind Children. Journal of Special Education, 2-5.

Moersintowarti. (2002). The First Edition Teachers and Growth Teachers Book. Jakarta: Sagung Seto.

Ozgur, Aydin Ziya. (2007). Evaluating Audio Books as Supported Course Materials In Distance Education: The Experiences Of The Blind Learners. Anadolu University, open education faculty. The Turkish online journal of educational technology - tojet October 2007 ISSN: 1303-6521 Vol. 6, 2-11

Resa Wahyuni, G. N. (2016). Braille Nutrition Books As An Educational Media To Improve The Knowledge Of Blind Children. Unnes Journal of Public Health, Vol. 3, 1-10.

Riskesdas. (2013). Agency for Research and Development. Jakarta: Riskesdas. Retrieved from http://www.depkes.go.id/resources/download/general/Hasil%20Riskesdas%20

WHO. (2009). The World Bank joint Child Malnutrition Estimates. Retrieved from World Health Organization: http://apps.who.int/gho/data/