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Widi's puzzle development towards improvement in oral hygiene behaviour of special school teacher

Widi Nurwanti*[1], Bedjo Santoso[1], Diyah Fatmasari[1], Rasipin[2], and Masrifan Djamil[1]

[1]*Postgraduate Oral Health Therapists Program, Semarang Health Polytecnic Indonesia*.
[2]*Kalimati Public Health Center, Brebes Indonesia*.

***Corresponding Author**: **Widi Nurwanti**
Email id: widinurwanti@gmail.com

ABSTRACT

Background

Retarded child experienced dental and oral health problems are higher than normal children caused can not perform independent activity behavior of dental and oral health maintenance. Proper behavior change strategies can be done by providing dental health education by teachers using customized learning methods and media needs of children with mentally retarded. During this time the dental health education are still using the same media used for normal children. Widi's puzzles created specifically for the learning process of children with mentally retarded accompanied by teachers who have attended the training activities.

Aim

Widi's puzzle effectively to improving the behavior of oral hygiene maintenance of special school teacher.

Method

Research and Development (R&D) and test the model using experimental quasy pretest and posttest with control group design. Special school teacher research subjects were divided into 2 groups: 1. Intervention media model widi's puzzle for 3 days and 2. Video media and demonstration of tooth brushing as a control. The independent variables: training media model widi's puzzle and the dependent variable: the behavior of oral hygiene maintenance (knowledge, attitudes, and skills) teachers. Data were tested using normality test, paired and independent t-test.

Results

This model is effective to increase teacher knowledge ($p < 0.047$), attitude ($p < 0.003$), and the skills of brushing teeth ($p < 0.025$) compared to controls.

Conclusion

Training media model widi's puzzle for 3 days is effective in improving behavior of oral hygiene maintenance (knowledge, attitudes, and skills) special school teachers.

Keywords: Widi's puzzle, Behavior special school teachers.

INTRODUCTION

The concept of oral health behavior is a thorough maintenance effort starting from the teeth, gums and other tissues in the oralcavity. [1] Practice dental hygiene and oral health maintenance is an act of the most important and it is recommended by means of brushing teeth. [2] Brushing teeth is a practice maintenance of oral

hygiene which serves to clean the plaque, stimulates gingival tissues, preventing dental caries and gingival tissue infections eliminates unwanted bad breath, and cleaning tounge. [3] Success of dental and oral health care one of them with the skills to brush their teeth properly independently, including the practice of using the tool, how to brush their teeth, and brushing the right time. [4] Strategies behavioral changes can be made using health education efforts or provide information about health. [5]

Oral health education is an education process that arise on the basis of oral health needs that aim to improve the health of the teeth and mouth better. The process of oral health education, is done so that people gain experience or knowledge through various media education. [6]

Application of oral health education can be done by a special school teacher, but previously had been trained dental and oral health education. Training is a series of activities designed to improve the skills, knowledge, experience, or a change in one's attitude. Training with respect to the acquisition of skills or knowledge, the role of trainers or facilitators in the learning process of adult education is to assist, encourage, facilitate and develop the self-learning process to create and develop an atmosphere that conducive [12].

Technical guidance to teachers in order to increase participation and skills in the implementation of oral health education within the scope of the delegation of authority to raise participation in the protection and prevention of oral health problems in children with mentally retarded. Health education is the main goal of oral health, the teacher as the primary target (primary target) health promotion should be empowered so that they are willing and able to maintain and improve their own health. Increasing the role and skills of teachers in health education is expected to be able to participate actively in guiding their students in the improvement of teeth and oral hygiene. [7]

Media that can be used in training activities one of which is a 3D puzzle modification brushing teeth, which is a medium to unite the fragments of the image and are arranged to form the stages of brushing your teeth. Puzzle is a media that can be used on any subject.

Puzzle help teachers to deliver material to the more interesting and exciting, so it is easy to understand the material being taught because the child will develop a puzzle game pieces or puzzle pieces in its place.[8] *Puzzle* 3D (three dimension) is a fraction images/articles that have space, has length, width and height.[9] Widi's Puzzle is a form of learning media 3D image fragments contain material on steps to brushing teeth properly and correctly according to the numbering.

METHODS

The method used in this research is the Research and Development (R&D) with quasy experiment (pre and post-test with control group design). This research aims to create a model of media puzzle steps to brush teeth in its implementation through learning methods. Research and development procedure includes five main steps, as follows:1) the collection of information, 2) design of products/models, 3) expert validation and revision, 4) testing products/models, and 5) the product/ model. [10]

The sampling technique with purposive sampling teacher training totaling 6 special school teacher who teach children with mentally retarded, then divided into two groups consisting of 3 intervention groups and 3 control groups. Knowledge and attitude measurement data maintenance of oral hygiene and brushing teeth skills teacher done by statistical tests. The research data using a ratio scale so do shapiro-wilk normality test.

Statistical tests to analyze the variable data pairs in the intervention group and the control group, when the normal data using a paired t-test, while not normal use wilxocon test. Statistical tests to analyze the comparison between the intervention and control group, when the normal data using independent t-test tests, while not normal using mann whitney test.

RESULT

Information collection

The results we concluded that the collection of information to train the child's independence in practice brushing teeth tunagrahita special effort and supported media that is able to involve children in the implementation.

Design of Products / Model

Researcher made a media model widi's puzzle. This media is modified from the shape of the puzzle that is generally square shaped puzzle pieces, the picture is clear, simple and one board puzzle according to one step stages of brushing teeth, making of puzzles tailored to the needs of learning methods and media that are suitable for children with mentally retarded.

Validation Expert

Table 1. Statistical test validity of the expert

Validity Expert*			
	n	f (%)	p-value
Relevant	10	100	0.000
Irrelevant	0	0	

*Intraclass Correlation Coefficient

The results of the validity of the experts pointed out that the p- value = 0.000, which means that the media model widi's puzzle relevant as dental health education media in children with mentally retarded.

Trial Product/Model (Teacher Training)

Table 2. Data normality test the intervention group and the control group

Knowledge (pre-test)	1.000	0.000
Knowledge (post-test)	1.000	1.000
Attitude (pre-test)	0.964	1.000
Attitude (post-test)	1.000	0.964
Skills (pre-test)	0.637	0.000
Skills (post-test)	1.000	1.000

*Shapiro-Wilk

Normality test results showed that p-value> 0.05, so it can be concluded that the normal distribution of data is retrieved parametric test.

Table 3. Test data is paired groups intervention and control groups

Group		**Knowledge****			**Attitude****			**Skills****		
		n	Mean	SD	p-value	Mean	SD	p-value	Mean	SD	p-value
Intervention	Pre	3	4.00	1.000	0.013	41.33	1.528	0.013	5.33	1.528	0.008
	Post		9.00	1.000		49.00	1.000		9.00	1.000	
Control	Pre	3	4.00	1.000	0.015	43.00	1.000	0.051	4.33	0.577	0.038
	Post		6.67	0.577		44.33	1.528		6.00	1.000	

**Paired Samples Test

Table 4. Test data is unpaired group intervention and control groups

Group		**Knowledge****		**Attitude****		**Skills****	
		n	Mean±SD	p-value	Mean±SD	p-value	Mean±SD	p-value
Intervention	Pre	3	5.33+1.528	0.047	7.67+1.528	0.003	4.00+1.000	0.025
	Post							
Control	Pre	3	2.67+0.577		1.33+0.577		1.67+0.577	
	Post							

*** Idependent Samples Test

The test results shows the effectiveness of the data pairs knowledge p-value intervention group was 0.013 (p <0.05), and the p-value is 0.015 control group (p <0.05). Attitude p-value indicates the intervention group was 0.013 p <0.05), and the p-value control group was 0.051 (p <0.05). Skills shows the p-value intervention group was 0.008 (p <0.05), and the p-value control group was 0.038 (p <0.05), meaning that media model widi's puzzle and video media and demonstration of brushing teeth effectively improve the knowledge, attitude, and skills brushing teeth special school teacher.

The effectiveness of the test results shows knowledge of data unpaired p-value between the intervention and control groups was 0.047 (p <0.05). The attitude shows p-value between intervention and control groups was 0.003 (p <0.05). Skills demonstrated p-value between intervention and control groups was 0.025 (p <0.05) means media model widi's puzzle more effective in improving knowledge, attitudes and skills of teachers compared with video media and brushing teeth demonstration.

Product Result

Products in the form of a media model widi's puzzle is the output of the development of teaching methods and media dental health. The model implementation widi's puzzle through cooperative learning teaching methods make a match type performed by children with mentally retarded, assisted by special school teacher.

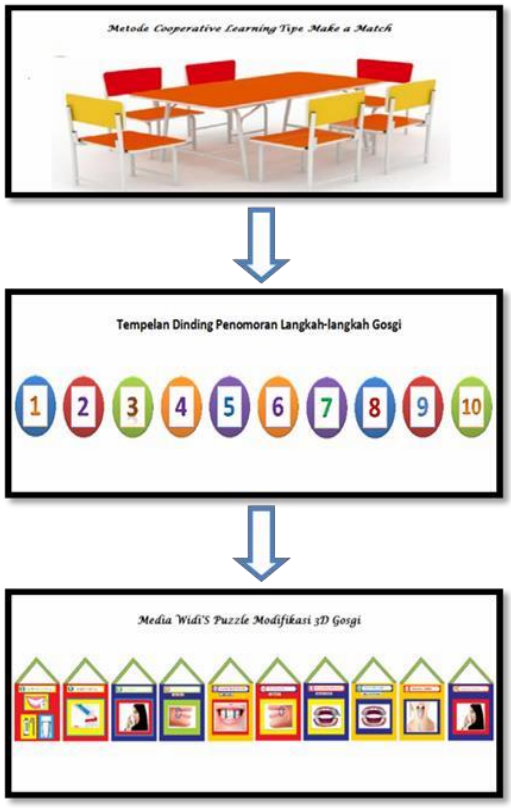

Figure 1. Media Model Widi's Puzzle

DISCUSSION

According Fatmasari (2019), children with mentally retarded require special services tailored to the needs them. [11] Media suitable to realize it was a media model widi's puzzle. The validation process is essential expert in the development of products/models in order to produce a product/model that is useful in improving the quality of education. [12] Sharma (2016), the media will support the learning process of brushing teeth practice.[13]

Educational interventions oral health can be given by the teacher to children with mentally retarded, but in the process the teachers need to be trained in advance because of the knowledge, attitudes and skills maintenance of oral hygiene

held by teachers capable of doing tansfer of knowledge and transfer of skills to children mentally retarded. Appropriate research Santoso (2018), the provision of dental health education to children with mentally retarded are not much different from normal children, but require the role of parents/teachers in the implementation process. [14]

Training media model widi's puzzle done to improve the knowledge, attitudes, and skills maintenance of oral hygiene. According Santoso (2017), is a dental health maintenance training activities planned through the learning process that aims to provide knowledge, inculcate and practice the skills until someone can independently perform maintenance actions oral hygiene. [14]

The result of the effectiveness of variable data pairs knowledge, attitudes, and skills brushing teeth showed that the p-value is<0.05 means media model widi's puzzle effectively improve the knowledge, attitudes and skills of brushing teeth special school teachers.

Improved knowledge because when given an understanding teacher training materials dental and oral hygiene maintenance. According Santoso (2015), knowledge is the result of learning obtained by a person after the person exposed to a particular object, [15] proved Asio study (2016), teachers' training can improve knowledge about dental health. [7]

Improved attitudes occurs when the person's response after being given the information and then weigh up will take action in accordance with the information provided. According Siwiendrayanti (2017), attitudes can be formed when a person obtains the information, provide feedback and will take action after being given that information. [16]

The increase in the practice of brushing teeth occur because the current teacher training given direction to brush their teeth properly through simulation and demonstration media model widi's puzzle. Research Santoso (2018), proving that the training of dental and oral health maintenance can improve skills practices brushing teeth special school teachers. [14]

According Notoatmodjo (2011), the implementation of the training program is successful if the participants undergo a process of awareness raising material, which is reflected in the attitude, and perform actions. Training media model widi's puzzle is successful because the teacher is given the understanding of material maintenance of oral health, undergo simulation and a demonstration of how to brush their teeth properly to take action in accordance with the information provided. [14]

Teachers who have been trained a pilot model for children with mentally retarde for the next expected teachers will assist and direct implementation media model widi's puzzle as improving the skills brushing teeth of children with mentally retarded.

CONCLUSION

From the research, it could be summarized that training media model widi's puzzle has been proven effective in improving the behavior of the maintenance of oral hygiene (knowledge, attitudes, skills) special school teachers.

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