



Syif's doll smart model as an effort to reduce status of debris index in elementary school children

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ABSTRACT

Background

School-age children are a group that is susceptible to dental and oral health problems, the low behavior of maintaining oral hygiene can cause problems with dental health. Factors that influence due to lack of information so the importance of implemented dental health education. The selection of media and methods that are less precise causes the results to be suboptimal, an alternative combination activity that can be used as a health education package is the syif's doll smart model that provides learning about oral health.

Objective

To develop syif's doll smart model as an effort to reduce of status debris index in elementary school children.

Methods

Research and Development/ (R&D), there are five stages of research namely: information gathering, product/model design, validation expert and revision, product/model trials (quasy experimental with pre test and post test with control group design) and results product/model. The sample was divided into 2 groups, the syif's doll smart model was an intervention group, dental health education using power points and tooth brushing demonstration in the control group. Data were tested using test repeated measure ANOVA, post hoc LCD, independent test.

Results

Validity expert results showed a p-value of 0.001 which meant that they were relevant as models and modules for dental health education. The score of child indebted debris occurred a significant change $p < 0.05$ meaning that this model was effective against decreasing the debris status of elementary school children index indicated by p-value of 0.001.

Conclusion

Syif's doll smart model is effective as an effort to reduce the status debris index in elementary school children.

Keywords: Elementary school children, Syif's doll smart model, Status debris index.

INTRODUCTION

The mouth is an ideal place for the development of bacteria, because sufficient temperature,

humidity and food are available there. Tooth and mouth hygiene is determined by food scraps, plaque, Alba material calculus, and stains on the surface of the teeth. School-age children are a

group that is prone to dental and oral health problems, the low behavior of maintaining oral hygiene can cause problems with dental health. This is evidenced from the results of the RISKESDAS survey of correct tooth brushing behavior in 2007 of 7.3%, 2013 of 2.3% and 2.8% in 2018 and in the Central Java province in 2007 of 5.5%, in 2013, and 2% in 2018 [1,2].

Dental and oral care is important because it is the entrance of food into the body. If there are still food scraps on the sidelines of the teeth arises soft plaque deposits consisting of bacteria that develop so that they are firmly attached to the tooth surface [3]. The lack of a child's level of knowledge in brushing his teeth and brushing his teeth properly can lead to a large opportunity for dental and oral disease, so it is important to provide knowledge and develop brushing behavior in children. Lack of knowledge about oral and dental hygiene is one of the reasons children ignore oral and dental health problems, and is a factor that can affect a person's awareness of maintaining oral health. Knowledge and attitudes are interrelated in the formation of the ability to perform certain actions [4]. Factors that influence the lack of knowledge, among others, due to lack of information sources, so the importance of dental and oral health education carried out [5].

Health education is very important in order to understand how to maintain proper dental health and care especially for children [6]. Providing knowledge to children is the process of helping someone by acting individually or collectively, to make decisions based on knowledge about things that affect personal and other people's health. The success of a dental and oral health education process is demonstrated by the existence of better behavioral changes which involve changes in knowledge, attitudes, and skills. Factors that influence the educational process include, educators, students, the environment, educational media, and learning methods [8].

Media delivery in accordance with the stages of cognitive development will be more easily accepted by children, so that dental and oral health knowledge can be improved and the use of senses can be maximally useful, it is necessary to educate dental and mouth health with assistive devices or media that can attract interest child [9]. The accuracy and appropriateness of the use of learning methods and media will make it efficient and effective because the media used not only provide

information, but also provide experience [10]. Counseling using appropriate media and methods can change and enhance children's knowledge from previously unknown to know. Selection of media that is not in accordance with the interests of children causes the results of counseling is not achieved optimally, we need an alternative counseling activities that interest children, one of them with a combination of health education media is made into a health education package that can complement each other [11].

An innovative media development in the form of syif's doll smart model which is one of the efforts and new findings in the form of alternative learning media that is packaged attractively aims to attract the interest and attention of children to learn about oral health. The advantage is that it has many game components that can be used as a place to incorporate dental health concepts that will be introduced to students so that they can be made into innovative, creative and interesting learning media. Because basically children often have the nature of being easily saturated so to encourage children to learn usually teachers and parents tend to use a variety of teaching aids and games as anglers to interest children to learn [12, 15].

RESEARCH METHODS

The method in this study uses Research and Development/ (R&D), there are five stages of research, namely: 1) Information gathering, 2) Product/model design, 3) Validation expert and revision, 4) Product testing/model (quasy experiment, pretest and posttest with control group design) and 5) Product/model results. The sample in this study was divided into 2 groups: the syif's doll smart model as an intervention group and dental health counseling using power points and tooth brushing demonstrations as a control group. Data were tested using repeated measure ANOVA, post hoc LCD, independent test.

RESEARCH RESULTS

Information Collection

Efforts to maintain healthy teeth and mouth should be done from an early age. Elementary school age is an ideal time to practice a child's motor skills and is a period that is prone to developing dental and oral disease. This is based on

the lack of knowledge, so that the importance of dental and oral health education implemented using learning methods that can attract the attention of children as well as the selection of media that is varied, innovative, interesting and fun so as to cause interest such as dolls, phantoms, picture books, and tools for brushing teeth.

Product Design/Model

Researchers make a syif's smart doll model as a model of reducing the status of the debris index in primary school children which is an alternative

counseling activity so that it can attract interest, one of which is a combination of health education media that can be used as a health education package that can complete each other.

Expert Validation and Revision

This validation was carried out to obtain data used as a basis for testing the feasibility of the syif's doll smart model with a questionnaire containing 10 questions from each of the eligibility of dental health promotion experts.

Table 1. Statistical results of the validator expert modules and models syif's smart smart Validity expert*

	n	f (%)	p-value
Relevant	10	100	0.001
Irrelevant	0	0	

*intraclass Correlation coefficient

The expert validity results show that the p-value is 0.001 which means the syif's smart doll relevant

models and modules as models and modules for dental health education in primary school teachers.

Product trials/models

Table 2. Normality test for the intervention group and the control group

No	Variable	P-Value	
		Intervention	Controls
1.	Debris index pre test	0.001	0.001
2.	Debris index post test 1	0.001	0.001
3.	Debris index post test 2	0.001	0.001

*Shapiro-Wilk

The normality test results for the *index debris* are normally distributed because the *p-value* > 0.05 then the parametric test is continued.

Table 3. Test the effectiveness of debris index for children in the intervention group and group control

Variable and Group	Mean±SD Pre test	Mean±SD Post test 1	Mean±SD Post test 2	P-value
	Paired Test*			
Intervention	2.126±0,813	1.181±0.333	0.726±0.413	0,001
Control	2.178±0,608	1.274±0.467	0.959±0.456	0,199
	Paired Pos Hoc Test**			
	Pre test – Post test 1	Post test 1 – Post test 2	Pre test – Post test 2	
	p-value	p-value	p-value	
Intervention	0.001	0.001	0.080	
Control	0.001	0.001	0.001	

	Non-paired Test***		
	Pre test	Post test 1	Post test 2
Intervention	0.001	0.001	0.003
Control			
	Non-paired Test Change Value (Δ)***		
	Pre test – Post test 1	Post test 1 – Post test 2	Pre test – Post test 2
Intervention	-31.67±8.991	-32.96±9.460	-1.26±2.809
Control	-30.19±7.606	-33.59±7.526	-3.37±3.200
p-value	0.001	0.149	0.010
*Repeatet measure anova	**Pos Hoc LCD	***Independen test	

The results of the effectiveness test for the debris index indicate that the p-value the intervention group was 0.001 (p <0.05) meaning that the syif's doll smart model effectively reduced index debris s child. The p-value of the control group was 0.199 (p > 0.05) which meant that dental health education using power points and tooth brushing demonstrations were effective in reducing index debris child. The results of the Post Hoc paired data show that the value of debris index child at pretest-posttest1 and posttest1-posttest2 did not experience a significant increase as evidenced in the intervention group and the control group each p-value 0.001. The pretest-posttest 2 value increased in the intervention group p-value 0.080 while in the control group did not experience a significant increase in p-value 0.001. The results of the test of the unpaired data effectiveness of the pretest and posttest 1 values were significant for each p-value of 0.001, whereas for posttest 2 the significance value of p-value was 0.003. Further tests were carried out to find out the value of change (Δ) pretest-posttest 1 had a significant p-value of 0.001, the posttest 1-posttest 2 had a significant value of p-value 0.049, and the pretest-posttest 2 had a significant value of p -001 value, which means the syif's doll smart model is effective in increasing children's knowledge compared to dental health education using power points and tooth brushing demonstrations.

Product/product results

The product in the form of *syif's doll smart* model is the *output* of the development of dental health media and learning models. The implementation of the *syif's doll smart* model is through demonstration education and evaluation.

DISCUSSION

The results of expert validity show that the p-value is 0.001, which means the syif's doll smart model is relevant as a model of dental health education for elementary school children. The expert validation process is important in developing a product/model in order to produce a product/model that is useful in improving the quality of education. Appropriate research Richey (2012) the necessary equipment in the research is the development of the experts (expertist) to be used as a determination of the validity of the theories and models [13]. Because development research will be carried out well if it involves quite a lot of participants.

The success of the syif's doll smart model also saw a decrease in the debris index child's. The results of the effectiveness test in the intervention group showed that the p-value of the intervention group < 0.05 means that the syif's doll smart model effectively reduced the debris index of children. scores Debris of primary school children have decreased because the sample has been taught to understand the practice of correct brushing. In accordance with Bridges' research (2014) the provision of material is strongly related to oral hygiene status. The ability to brush teeth properly and correctly is an important factor for the maintenance of teeth and mouth. fine and gross motor development are increasingly heading towards progress, therefore more children can be taught how to maintain oral and dental health in more detail, so that they will incur a sense of responsibility for their own hygiene, through this learning model children are easier and understand the importance maintain dental hygiene.

Different test results showed that the p-value between the intervention and control groups was <

0.05 meaning that the syif's doll smart model was effective in increasing knowledge, attitudes, and actions for brushing teeth and was effective in reducing the debris index of children compared to dental health education using power points and rubbing demonstrations tooth. This is because the advantages of the syif's doll smart model provide a lot of stimulus in the learning process, the implementation is carried out in small groups and children are directly involved in demonstrating themselves how to brush their teeth properly. The practice of brushing teeth works to clean teeth from dirt, especially plaque and debris and removes unwanted odors and also provides comfort to the teeth so that blood circulation to teeth is smooth, learning to brush your teeth properly to clean plaque is the most valuable investment for children in maintaining his teeth to stay healthy [14].

The principle of making teaching aids and extension media states that the knowledge available

to everyone is received or captured by the five senses [16]. The more the five senses are used more and more clearer also the understanding or knowledge gained [17,18]. Demonstration methods and video methods make children use more than one of the five senses, so that the knowledge provided in the counseling method both demonstration and video can be well received [19]. Choosing the right method in the process of delivering counseling material is very helpful in achieving efforts to change the target behavior, requires tools especially for children, the use of tools to change children's behavior is very important.

CONCLUSION

Syif's doll smart model is effective in reducing the status debris index in primary school children before and after treatment.

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