## **Research Article**

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# Influence of video modelling to the toileting skill at toddler

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#### **ABSTRACT**

**Background:** Toileting skill was a task of toddler development should be achieved well. Toileting skills consist of vocabulary and signs, bowel control, bladder control, and another aspect. Toddler was in the preoperational phase, so that required media to learn toileting skill that can provide a concrete description of information. The purpose of this study was to determine the influence of video modeling to the toileting skill of toddler.

**Methods:** The study was a quantitative quasi experimental with control group pretest-post-test design. The study was conducted in August-September 2015 on 20 respondents aged 24-36 months were selected through purposive sampling. Respondents were divided into groups of video modeling and verbal technique. Measurements were made with toileting skills questionnaire adopted from the Royal College of Nursing (2013) and toilet training guidelines of the American Academy of Pediatrics (2004). Toileting skills bivariate analysis used paired t-test and independent t-test with a significance level of 95% (p < 0.05).

**Results:** The results showed, mean improvement in toileting skills on video modeling group was at  $26.00\pm9.381$ , while the mean improvement of toileting skills in verbal technique group was at  $6.20\pm3.967$ . Video modeling impact on the increase in toileting skill higher than verbal technique with the difference in the mean difference of  $19.800\pm3.221$  (p <0.001).

Conclusions: Video modelling significantly influenced the increase in toileting skill of toddler, Specially bowel control.

Keywords: Toddler, Toileting skill, Toilet training, Video modelling

#### INTRODUCTION

Toddler was an effective age to develop the potential of the child.<sup>1</sup> One of the tasks of toddler development was achieved toileting skills consisted of bladder control and bowel control.<sup>2</sup> Natural and complex processes of the child development were to obtain toileting skills called toilet training.<sup>3</sup>

Toilet training was an important part in the development of children being able to provide the confidence and independence of children.<sup>3,4</sup> The failed toileting abilities obtained in age 24-36 months, raised the problem of dysfunctional voiding or also called urinary disorders such as enuresis, urinary tract infections, constipation, encopresis and refusal to go to the toilet.<sup>5,6</sup> Failure of toilet training continued until adolescence, causing problems psychopathology and suicidal behavior.<sup>7</sup>

The prevalence of enuresis in the world ranged between 11.4% - 45% by the age of 3-11 years. The prevalence of enuresis tended to be balanced in boys and girls. <sup>5,7-10</sup>

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Research in Denpasar showed that the prevalence of enuresis in kindergarten children was 10.9%. 11

The learning process of toileting skills often caused problems. Some parents gave emphasis on toilet training which would be a negative experience for the child, so that they felt embarrassed and hesitant. <sup>12-14</sup> To overcome these problems was needed proper toilet training media.

Media of toilet training in healthy children without disabilities had been developed was the image and booklet. Lee developed a toilet training kit with cartoon characters. Image media for toilet training had been developed wasvisual aids for learning version 1.0. For this time had not conducted yet research about video modeling for toilet training in healthy children.

Based on the cognitive development theory developed by Piaget, toddler was at the stage of preoperational. Toddler had not been able to operationalize they thought through an act in the child's mind, so they would not understand the instruction of parents.<sup>2</sup> In social cognitive theory, the video became a model in observational learning.<sup>16</sup> Video gave concrete imagesof information totoddler. Toddler that was shown the character video would personalize the character modeled.<sup>17,18</sup> Video was one of media recommended for toilet training.<sup>19</sup> Based on these descriptions, the researcher conducted this study in order to determine the effect of video modeling to increase toileting skills at toddler in Purwokerto..

#### **METHODS**

This study was a quasi-experimental quantitative study with control group pre test-post test design. The sample was taken by purposive sampling with inclusion criteria for children aged 24-36 months in August 2015, physically and psychologically healthy, Javanese, had not been followed toilet training with the method of video modeling, ready to do the initiation of toilet training with the following conditions: being able to walk, can sit and squat with a stable, able to withstand the bowel and urinary elimination for at least two hours, already had the language skills to express a simple desire, and could express a desire simply both verbal and non-verbal. Exclusion criteria in this study were children with disabilities and had bladder dysfunction.

Respondents of this study amounted to 20, were divided into a treatment group and a control group. The treatment group was given the video modeling intervention for two minutes, six times for two weeks. The intervention group also received reinforcement from teachers in the form of praise and reinforcement in the form of repetition and review at the end of each session. At home, parents provided reinforcement with praise when the child reached ability, as well as to strengthen by giving a picture of toilet training. The control group was given verbal techniques for two weeks. After completion of data collection, the control group also received the same

intervention rights to the treatment group. Before video modeling and image toilet training being used for intervention, the first had been conducted trials on 12 toddlers with characteristics approached respondents.

Toileting skills evaluation was done by using a questionnaire of toileting skills adapted from the toileting skills assessment and toilet training guidelines from the American Academy of Pediatrics, 2004. The validity of questionnaires was conducted by face validity and content validity. Face validity was done by consulting the questionnaire to experts of toilet training and carried out the review process by linguists in Indonesia Literature Department, Faculty of Faculty of Cultural Science, Gadiah Mada University. Content validity test used product moment correlation test with significance value of 5% (N = 12, r table = 0.5760). Instrument test in the study used chronbach's alpha reliability. Content validity test was conducted on 12 respondents in the Day Care Aisyiyah of East Purwokerto. The validity of the test results with r table = 0.5760, there were 20 valid items and five question items with values under r table. The question items represented each ability domain, so be revised. Reliability test results obtained reliability coefficient alpha of 0942, so that it could be concluded that all the questions items were reliable. Besides the questionnaire, the researcher also made a simple observation for respondents at school to know toileting skills of respondents. Variable analysis of toileting skill was performed with statistical paired t-test and independent t-test. An increase the value of toileting skills was analyzed by external variables to determine the influential external variables. External variables of age, sex, socioeconomic of family, father's education and care techniques were analyzed by independent t-test. External variables of the mother's education and the use of diapers were analyzed by one-way ANOVA.

#### **RESULTS**

Table 1 described all respondents were at an ideal age to do toilet training, namely age of 24-36 months. Gender of most of respondents was male. The use of diapers on respondents almost balanced. Most of education of the father and mother of respondent's werescholar. Family income was almost equal, mostly above minimum wage earners in Purwokerto. Most parents used the technique of induction care.

All mothers in this study were the working mother, so that no further analysis. Figure 1 illustrated the value of toileting skills before the intervention in the treatment group and the control group almost equal (p = 0.605). The post-testvalue of respondents' toileting skills was higher than the pretest to both groups.

However, the video modeling group had an increase in toileting skills were more significant than the verbal technique. Statistical test results of paired t-test, the mean improvement in toileting skills on video modeling group was at 26.00 with a significance value of p = <0.001, while the mean improvement of toileting skills in verbal technique group was at 6.20 with a significance value of p = 0.001.

Difference in toileting skills improvement of video modelling group and verbal technique group was amounted to 19,800. Through statistical tests of independent t-test, from the mean difference of the pretest and post-test value of two groups was obtained p-value of < 0.001, which meant that there were significant differences in the mean increasing toileting skills in the groups of video modelling and verbal technique.

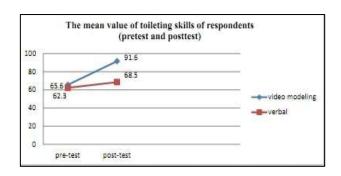


Figure 1: The increase of toileting skills in group video modelling and verbal technique group.

Table 1: Distribution of respondents and homogeneity testin the group of video modelling and verbal group.

Characteristics	Video modelling		Verbal		,	
	Mean ± SD	n = 10 (%)	Mean ± SD	N = 10 (%)	p-value	
Age (months)		70		30		
24-30		30		70	1.000	
31-36		30		70		
Gender		70		50		
Man		30		50	0.207	
Female		30		30		
The use of diapers						
Do not use it		30		10		
In the night while sleeping		20		50	0.925	
Certain conditions such as pain and					0.923	
traveling		40		10		
All day		10		30		
Father's education					_	
High School		40		20	0.081	
S1		60		80		
Maternal education						
High School		20		-	0.001	
D3		20		10	0.001	
S1		60		90		
Family Socioe economic						
<rp (below="" 1,200,000="" minimum)<="" p=""></rp>		20		10		
wage)		80		90	0.232	
>Rp 1,200,000 (above the minimum		00		90		
wage)						
Techniques care						
Induction		80		100	0.001	
Noninduction		20		0		
Toileting skills pre-test	$65.60 \pm 17.995$		$62.30 \pm 8327$		0.052	

External variables of age, sex, techniques care, family-socioeconomic and main caregivers did not have a significant influence on the increase in toileting skills of toddler (p > 0.05).

Variables of father's education, mother's education, and the use of diapers influenced the increase in toileting skills at toddler (p <0.05).

#### **DISCUSSION**

Scores of toileting skills after given video modelling as much as six times in two weeks was tended to increase compared to the prior gave intervention. Results of this study were supported by similar studies explained that video modeling was able to significantly improve specific abilities.<sup>20-3</sup> Increased of toileting skill mean score in the group given video modelling more significant compared with the verbal technique. The frequency of urination in

the bathroom independently higher in group given video modeling compared with the group not given video modeling. Experimental studies in Dhaka explained that children were more excited to see the video and captured the information contained in it, compared with traditional learning. <sup>25</sup>

Video modeling group increased toileting skills score higher because of video modeling in accordance with the cognitive development phase of respondents in preoperational phase. <sup>26,27</sup> Children were not able to think of abstract information. Child's imagination and thinking process developed faster with pictures and symbols. <sup>28</sup> Video helpedtoddler to transfer the information to the real world. <sup>29,30</sup>

Toddler imitated of what is exemplified by the model in the video, in the form of Lili and Lilo characters which was similar to his age. According to the theory of cognitive development proposed by Piaget, the learning process with video modeling to the toddler was the process of imitation. Through the successful of experiences conducted by other model which was similar to respondent would increase self-efficacy. This condition raised motivation and desire to follow the successful achievement modelled so that respondents imitate or make the process of imitation. Through imitation the child could feel the action taken by the model in the video, transferred into perception, established an action plan, and conducted its own motor activity that was similar to the action model.

The success of video modeling in this study was supported by the reinforcement for strengthening of the target skills that have been achieved.<sup>32</sup> Reinforcement was given by showing two thumbs and said that the child was smart, intelligent, and powerful. Reinforcement was given in schools by teachers and at home by parents. Reinforcement at home by parents done by showing and playing toilet training picture. Review and a brief description were also given after the broadcast video at the school as the application of the concept of learning observational at the stage of reinforcement and motivational processes.<sup>33</sup> Positive reinforcement was a form of reward given to children when acquiring a skill achievement with the aim that the children were more motivated, boost the self-confidence and efforts to maintain the ability.<sup>22,34</sup>

Mother's education and father's education influenced the increase in toileting skills at toddler. Parents with higher education tended to have children with lower toileting skills scores compared to parents with lower education. These findings were supported by a study explained that parents with higher education tended to be late giving toilet training. The similarity of the results in this study was due to the similarity of the characteristics of respondents' parents were all working. Mothers with higher education tended to have a formal job so that she had a limited time to care for their children. Research in

Belgium described that mothers who work professionally and had a higher education the more they will allow and hand over completely toilet training to the school.<sup>22</sup>

External variables, diapers influenced the increased scores of toileting skills. Children used diapers tended to increase the toileting skills score lower than children did not use diapers. Previous research found that today's parents tended to use diapers for children, so that children achieved the toileting skill ability at older age because children were already familiar with bowel and urinary with diapers.<sup>35</sup>

The weakness of the study was the researcher did not do some measurements in accordance with a specific time frame. Researcher could not know how long the toddler able to maintain the ability gained from learning through video modelling. Researcher only did once post test after completion of the intervention. Imitation in toddler was a learning process with long retention. Past study said that the minimal ability of toileting skills gained from learning with video modelling can be maintained for four weeks.

The weakness of this study lied in the respondent's conditions that at the time of the study were new students who were adapting to school, but the researcher did not analyze the adaptation stage reached the child. In theory the adaptation was influenced on toileting skills. Children who had difficulty in adapting to an event would impact on the delay in the achievement of bladder control.<sup>37</sup>

### **CONCLUSION**

Video modelling significantly influenced on the increase in toileting skills of toddler. External variable that could influence the increase in toileting skills was a parent's education and the use of diapers. Recommendation for the further research can use sequential time evaluation to know how long skills can be rentented by toddler.

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