

THE EFFECTIVENESS OF A PARENTAL EDUCATION INTERVENTION ABOUT A CHILD-ORIENTED APPROACH TO TOILETING FOR HEALTHY THAI TODDLERS

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Abstract

Toilet training (TT) is a necessary developmental task that all healthy children must ultimately achieve. The Centers for Disease Control and Prevention (CDC, 2001) noticed that *E. coli* can be spread to playmates by toddlers who are not toilet trained. Studies show parental participation in the TT process is crucial and the parental readiness to pledge to TT is an important step for training. In Thailand, very few studies have been conducted about TT a toddler, and all of the studies are descriptive. The purpose of this EBP project is to provide Thai parents an educational intervention based on TT guidelines recommended by the American Academy of Pediatrics. Bandura's concept of self-efficacy and the Model of Diffusion of Innovations (DOI) serve as the theoretical framework for this project. A single group pre-/post-test design to measure outcomes was conducted at Veeraya Kindergarten School in Chiang Mai, Thailand. Participants were parents of toddlers aged 18 to 36 months. Questionnaires were used to assess participants' knowledge and self-efficacy relevant to TT and whether or not TT was achieved. Participants were encouraged to initiate TT their children after a parental education intervention. A child's toileting skills progression has been evaluated every 2 weeks for 12 weeks by using a potty log that is maintained by parents. Participants completed pre- and post-tests that include 30 question knowledge on TT healthy children and the self-efficacy assessment tool. Paired-sample t-tests were conducted to analyze and compare the mean pre-tests to the mean post-tests scores. The paired- sample t-tests demonstrated that the parental education intervention significantly increased participants' knowledge and self-efficacy immediately after the intervention ($p < 0.1$). However, the conclusion cannot be done at this time since the project is in progress. The best practice guidelines in TT of healthy toddlers in Thai context are expected to be carried out.

Keywords: toilet training, child-oriented, evidence-based practice, parental education.

Introduction

The early years of a child's life are very important for his or her health and development (CDC, 2011). Toddlers are developing physically and becoming more mobile. Erikson's theory notes the toddler stage represents autonomy (independence) versus shame or doubt (Feigelman, 2007). TT is an important milestone in child development and it is a critical task for achieving independence and self-esteem of a child (Stadtler, Gorski & Brazelton, 1999). Although this task may seem to be a simple problem, it is not easy to manage. TT could be the greatest challenges for parents or caregivers. Parents may become confused and frustrated



with conflicting advice from various resources such as friends, relatives, and media. In addition, a child is unique as an individual who will not be ready for a TT at the same age and may respond to the various training differently. In Thailand, TT starts before the age at which the child is able to sit properly or before age of 18 months (Ngamrungrund & Plubrukarn, 2011). The youngest age at which normal Thai infants start to be toilet trained was 4 months (Benjasuwantep & Ruangdaraganon, 2011). Thai parents begin TT their children based on a parent readiness rather than a child readiness. Most Thai infants were initially trained when they showed urging signs (Benjasuwantep & Ruangdaraganon, 2011); other signs of readiness to TT were not assessed. Furthermore, because many parents work outside the home to produce needed income, Thai children tend to be enrolled in daycare at an early age. Hence, TT is a necessary task for children who will enroll or have been enrolled in daycare or preschool. The most commonly recommended TT methods are the child-oriented approach of Brazelton child-oriented method (1962) and the Azrin and Foxx method (1974). Both methods were found to result in quick successful TT, but the child-oriented approach is easier to understand and more accepted by parents (Klassen et al., 2006). Parents, mostly mothers, play an important role in training their child toileting skills (Klassen et al., 2006). Factors that may lead to the postponement of TT include an access to disposable diapers or parents working outside the home to increase household income. Regarding these factors, healthcare professionals need strategies to support and advise parents about TT and having realistic expectations of their children. The healthcare professionals can make significant contributions to reduce the uncertainty and frustration of parents or caregivers who are about to start training their children by providing information about a proper time to start training, the TT method, and adjustment while training their child. A regular discussion with parents of healthy children about TT guidelines with concrete and simple advice must be a subject that should be brought up as naturally as other developmental stages. Thus, the question raised for this evidence-based practice project is, in the PICOT format: In parents and caregivers of healthy toddlers in Thailand, how does a child-oriented toilet training method affect parental knowledge, parental self-efficacy, and achievement of child in toileting skills? The purpose of the EBP project is to facilitate achievement of child toileting skills by implementing toilet training guidelines to improve the utilization of evidence and practice through parent-child interactions. This EBP project is prepared in accordance with guidelines from valid reliable sources, such as the American Academy of Pediatrics (AAP, 1999a, 1999b, 1999c), to guide Thai parents/caregivers about how to TT their children by involving the use of effective implementation strategies to improve parent-child interaction interventions. The EBP question focuses on the effectiveness of a parental education intervention that enhances parental knowledge and self-efficacy to facilitate child achievement in toileting skills by implementing EBP in healthy Thai toddlers.

Methodology

An implementation of the intervention occurred 4 months from September 2012 to December 2012. A single group, pretest/post-test design was utilized in this evidence-based project to investigate the effectiveness of a specific TT guideline and parent educational program that enhance parental knowledge and self-efficacy in promoting TT to their children. Convenience sampling was implemented. Survey questionnaires, a screening tool, were sent to eighty parents/ caregivers of a healthy child age of 18 to 36 months at Veeraya Kindergarten School in San Sai, Chiang Mai, Thailand. To be eligible to participate in the study, their children



must have demonstrated signs of TT readiness because parents can practice their knowledge in TT with their children at once. Data of the parent readiness and child readiness for TT were assessed through the inclusion criteria screening tool. Parents of the children who did not meet criteria for readiness were excluded from the program. Forty-two parents were eligible for the study but thirty-six parents/caregivers signed an agreement to participate. Child and parent demographic information were assessed using a structured-questionnaire. This questionnaire was developed to gather demographic information pertaining to the parents and their children. Child demographic information collected include gender, age, date of birth, child's health status, diaper utilization and experience of being toilet-trained. In addition, questions pertaining to the child's general medical history and current medications were included. Parental/ caregiver information survey includes relation to child, age, marital status, educational levels, number of other children in their house, hours per day each parent spend with their child, household income, and experience of providing toilet training to a child. Participants were assessed for knowledge in TT using parental knowledge pre-test and post-test questionnaires. Parental self-efficacy was measured both pre-and post-intervention using the parental self-efficacy questionnaire designed by the doctoral student based on Bandura's theory and General Self-efficacy Scale then reviewed by five experts including pediatric nurses and university lecturers. The researcher provided a half-day parental educational intervention and guidelines in Thai language based on the AAP recommendations for TT healthy children (1999a, 1999b, 1999c) and best practice from literatures. The content consisted of general information about child development, benefits and risks of TT, parenting skills, signs of parents' readiness and child readiness for TT. Moreover, the reinforcement techniques and anger management are included in the "Potty time!" booklet. Participants were encouraged to start TT their child as soon as possible after the parental training session. Using a potty log that is maintained by parents, the researcher evaluated child progress on toileting skills every 2 weeks through a phone call and face-to-face meeting until the child achieved in TT or at the end of the project on week 12. The researcher made a phone call to listen to participants' practice experience, counseling and reminding them to record and return a potty log to the researcher at the kindergarten on every other week throughout the project. Parents were allowed to call the researcher anytime regarding to the project. In addition, at the end of the project, parents were asked to complete the parental satisfaction evaluation form. This form was sent to parents/caregivers via mail or given directly to the parent at the kindergarten. All questionnaires, test, and assessment tools use in this project were established for validity and reliability before utilization. Data was inputted into a Statistical Package for the Social Sciences (SPSS) program Version 18.0. Descriptive statistics were used to describe the demographics of the sample and the primary outcome variables, and numbers of child achieved in TT. The paired t-test was used to analyze the change in parental knowledge and self-efficacy post intervention. Percentages were used to express number of child achievement in TT and parental satisfaction of the program. Institutional Review Board (IRB) approval has been obtained from Chiang Mai University and Valparaiso University before the project begins or any data are collected.

Results

Characteristics of the study participants

The sample characteristics are described in Table 1 and Table 2. A total of 36 parents have been participating the study. All participants were Thai with a mean age of 32.44 (SD 7.63). Thirty-two participants are mother (88.9%), while the rest of the participants are fathers

(5.6%) and grandparents (5.6%). The education level of the participants included high school or lower (30.5%), diploma (13.9%), and baccalaureate degrees or above (55.6%). Employment status of the participants ranged from unemployment to full time but half of study participants work fulltime. Mean of caring duration for a child per day was 10.42 hours (SD 4.33). Parental expectations for child's age at achieving toileting skills was 33.7 months of age (SD 1.05). Participants' children include 14 girls (38.9%) and 22 boys (61.1%). Mean age of children who have receiving TT by their own parents is 26.67 months (SD 0.57). Age of the youngest child is 18 months and the oldest child is 46 months.

Table 1 Sample Characteristics

Trait	Range	Mean	SD
Participant's age	20 - 57 (years)	32.44	7.63
Caring hours	4 - 18 (hours)	10.42	4.33
Expected child's age to achieving TT	12 - 60 (months)	33.7	1.05
Child's age	18 - 46 (months)	26.67	0.57

Table 2 Sample Characteristics

Trait	Frequency (n) Result
Nationality	100% (n=36) Thai
Relation to the child	88.9% (n=32) Mother 5.6% (n=2) Father 5.6% (n=2) Grandparent
Highest Degree	2.8% (n=1) No Formal education 8.3% (n=3) Elementary School 8.3% (n=3) Primary School 11.1% (n=4) High School 13.9% (n=5) Diploma/ Vocational school 55.6% (n=20) Baccalaureate degrees or above
Employment Status	13.9% (n=5) Unemployment 16.7% (n=6) Work for wages 27.8% (n=10) Self-employ 19.4% (n=7) Government officer 19.4% (n=7) Private company officer
Child's gender	38.9% (n=14) Female 61.1% (n=22) Male

Toilet training knowledge and self-efficacy

In order to understand the effect of the parent education intervention on parental knowledge, a paired-sample t-test was conducted to analyze and compare the pre-test and post-tests knowledge scores (see Table 3). The knowledge questionnaire consisted of 30 questions with true or false and multiple choice testing methods. The mean on the pre-test was 14.92 (SD 4.07), and the mean on the post-test was 24.50 (SD 2.38). A statistically significant increase in parental knowledge occurred after participants received the parental education intervention ($t = 12.38, p < .01$).

Table 3 Paired Sample t-test for Pre- and Post- Knowledge Tests

	N	Mean	SD	df	t	Sig.
Pretest	36	14.92	4.07			
Post	36	24.50	2.38	35	12.38	0.00

The results from the self-efficacy for toilet training assessment tool were analyzed using the paired-sample t-test on the pre-intervention and post-intervention scores (see Table 4). The mean self-efficacy before an intervention was 27.36 (SD 5.08), and the mean self-efficacy after an intervention was 32.75 (SD 3.58). A statistically significant increase in participants' reported self-efficacy occurred after they received the education intervention ($t = 7.48, p < .01$).

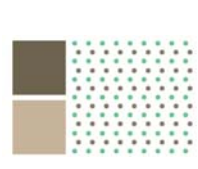
Table 4 Paired Sample t-test for Pre- and Post- Intervention Self-Efficacy

	N	Mean	SD	df	t	Sig.
Before	36	27.36	5.08			
After	36	32.75	3.58	35	7.48	0.00

From this analysis, the pre-/post- knowledge test scores and parent's self-efficacy improvements were noted after a parental education intervention. It can be concluded that improvements were seen after the educational intervention but the outcomes of child achievement in toileting skills which is the main purpose of this EBP project is in the data collection process. The number of child achievement in toileting skills will determine whether this project is successful.

Discussion and Conclusion

The doctoral student proposes to carry out an implementation of intervention of this EBP project over 4 month period from September to December, 2012. However, the doctoral student has found parental self-efficacy to be associated with child developmental outcomes (Coleman & Karraker, 1998; Jones & Prinz, 2005). Parents with high levels of parental self-efficacy demonstrate high levels of parental competence, which resulted in positive developmental outcomes in their children. Moreover, Jones and Prinz (2005) reported that parental self-efficacy is an important predictor in a parent's positive behaviors while parenting. Parental self-efficacy has been determined that parental self-efficacy is a precursor



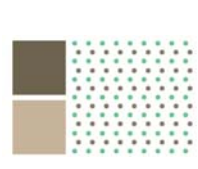
to parenting outcomes. Grusec et al. (1994) have noted that parents who lack a sense of efficacy in their own ability to parent seem to be unable to put knowledge of parenting tasks into action. This EBP project provides a look at how parents can be supported through intervention. Self-efficacy and knowledge also can predict parenting role. Therefore, the initial findings of parents' knowledge and self-efficacy improvement after a parental education intervention can help predict the outcome and the effectiveness of education intervention. The expression of parents' opinions and recommendations for practice from a potty log may prove beneficial to future practice. Findings from this project will contribute to developing practice and will also assist healthcare providers to provide best practice guidelines about TT a healthy child to parents in Thai context. The result of this EBP project answered the PICO question and may provide a foundation for future projects by support and guidance a new TT guideline for Thai toddlers. Since this project was planned under a mutual agreement, a good collaboration with the preferred setting and the standard research method, a successful of this project can be expected.

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