



Which Factors Play a Crucial Role in the Toilet Training Process?

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ABSTRACT

The prolonged use of diapers can cause skin problems in babies due to inflammation in the diaper-covered area. Toilet training is a crucial milestone in a child's development, marking the transition from diaper to toilet use. This study aims to identify the factors associated with toilet training in toddlers. It is a quantitative study with a cross-sectional approach conducted in October 2023. Eighty respondents (40 mothers and 40 toddlers) were involved using a total sampling technique. The independent variables in this study were the mother's factors (age, education, and knowledge) and the child's factors (age and gender). The dependent variable was the child's readiness for toilet training. Data were collected using surveys and questionnaires and then analyzed using the Chi-Square test. The results show that the factors significantly associated with toilet training readiness are maternal knowledge ($p=0.003$, OR 0.60 CI 95% (0.264–5.208)) and the child's age ($p=0.002$, OR 0.374 CI 95% (0.257–5.680)). The research recommendation is for mothers to start teaching their children toilet training between the ages of 2 and 3.

Keywords: readiness; toddler; child; toilet training

ABSTRAK

Pemakaian diapers yang terlalu lama dapat menyebabkan masalah pada kulit bayi karena peradangan di area yang tertutup popok. Toilet training merupakan salah satu tanda penting dalam kehidupan awal anak untuk berpindah dari

penggunaan diapers ke penggunaan toilet. Penelitian ini bertujuan untuk mengetahui faktor-faktor yang berhubungan dengan toilet training pada anak usia toddler. Penelitian ini merupakan penelitian kuantitatif dengan pendekatan cross sectional yang dilakukan pada bulan Oktober 2023. Sampel penelitian merupakan 40 ibu dan 40 anak usia toddler dengan menggunakan teknik total sampling. Variabel bebas pada penelitian ini adalah usia ibu, pendidikan ibu, pengetahuan ibu, usia anak, dan jenis kelamin anak. Variabel terikat pada penelitian ini adalah kesiapan anak dalam toilet training. Data dikumpulkan menggunakan angket dan kuesioner kemudian dianalisis menggunakan uji Chi Square. Hasil penelitian menunjukkan bahwa factor yang hubungan secara signifikan dengan kesiapan toilet training adalah pengetahuan ibu ($p=0,003$, OR 0,60 CI 95% (0,264–5,208)) dan usia anak ($p=0,002$, OR 0,374 CI 95% (0,257–5,680)). Diharapkan ibu mengajarkan anak mengenai toilet training sejak usia 2-3 tahun.

Kata Kunci: kesiapan; toddler; anak; toilet training

INTRODUCTION

Toilet training is crucial in encouraging children to meet their basic needs, such as controlling bowel movements, eating, drinking, and organizing their clothes and toys without assistance. One of the essential developmental milestones in a child's early life is transitioning from diapers to toilet use (Baird et al., 2019; Mursyida, 2022). Prolonged diaper use can lead to diaper rash or an inflammation of the skin in the diaper-covered area, including the genital, hip, and groin areas (Wigati & Sitorus, 2021).

According to data from the World Health Organization (WHO) in 2016, the prevalence of diaper rash among toddlers is relatively high, affecting 25% of the 1 million outpatient infant visits (Khairoh et al., 2022). In Indonesia, the incidence of diaper rash in infants aged 0 to 1 year is 35%, affecting both boys and girls. This incidence remains consistent among three-year-old children (Wigati & Sitorus, 2021). Additionally, the 2020 National Household Health Survey (SKRT) reported that around 75 million toddlers in Indonesia still struggle to control urination (BAK) and defecation (BAB) until preschool age (Tinta Julianawati; Rici Gusti Maulani, 2022).

Sudimoro, in Lampung, was chosen as the study site due to its rural characteristics, providing insights into how healthcare practices and parental knowledge in non-urban areas affect toilet training readiness. The Sudimoro Health Center has a significant toddler population, with 300 children aged 1 to 3 years, making it an ideal location for studying toilet training practices. Local health data also reveal issues like prolonged diaper use and diaper rash, further highlighting the need for timely interventions. A pre-survey conducted in Pekon Sudimoro found that 62.5% of mothers of toddlers had limited knowledge about their children's readiness for toilet training. Among mothers aged 21-35 years, 56.2% of their children were ready for toilet training, while 43.8% of children with mothers aged 36-45 years were ready. Overall, 56% of children were not yet capable of toilet training.

Previous research found that a mother's knowledge, age, and education level significantly influence toilet training readiness. Mothers with better knowledge are more likely to be prepared to teach their children toilet training (Tiasuti, 2020). Training a child requires the proper methods, a good understanding, and patience so that the child can gradually learn the steps until toilet training is successfully implemented (Yuliar et al., 2021). Based on this data, the researcher is interested in further exploring the factors associated with toilet training readiness in toddlers in Pekon Sudimoro, Tanggamus Regency.

METHOD

Participant Characteristics and Research Design

This study employed a quantitative research design with a cross-sectional approach, conducted in October 2023. The research involved 80 respondents (40 toddlers and 40 mothers), with

independent variables including maternal factors (age, education, and knowledge) and child factors (age and gender). The dependent variable is the child's readiness for toilet training. This design allows for an assessment of the current status of the participants and the immediate relationships between these factors and the readiness for toilet training.

Sampling Procedures

The sampling technique utilized was total sampling, which involved selecting the entire population of interest within the defined criteria (mothers with 1-5-year-old children). Among the 80 respondents in the sample, data were collected from 72 at the Pekon Sudimoro Health Center, while the remaining eight used the door-to-door method to ensure comprehensive coverage and to include participants who could not attend the health center.

Data Analysis

Data were collected using a structured questionnaire to capture relevant information on mother and child factors. The collected data were analyzed using the Chi-Square test to examine the relationships between independent variables (maternal age, education, knowledge, child age, and gender) and the dependent variable (child's readiness for toilet training). The results aim to contribute to a better understanding of how various factors interact and affect toilet training outcomes.

RESULTS AND DISCUSSION

The following table presents the characteristics of the study participants, including variables such as age, gender, education, and other relevant factors. This detailed information is crucial for contextualizing the study.

Table 1.
Characteristics of Respondents

<i>Characteristics</i>	<i>n (40)</i>	<i>(%)</i>
Mother		
Age		
Early adulthood	28	70
Late adulthood	12	30
Education		
Primary	15	37.5
Secondary	16	40
Higher	9	22.5
Knowledge		
Good (76-100%)	22	55
Fair (56-76%)	18	45
Poor (<56%)	0	0
Toddler		
Age (Month)		
12 – 18	14	35
18 – 24	6	15
24 – 36	20	50
Sex		
Male	15	37.5
Female	25	62.5
Toilet Training Readiness		
Ready	32	80
Not ready	8	20

Based on Table 1, most mothers are in early adulthood (70%), have secondary education (40%), and possess adequate knowledge about toilet training (55%). Most mothers have children between 24 and 36 months (50%) and female children (62.5%). In Pekon Sudimoro, Kabupaten Tanggamus, a significant proportion of children are ready for toilet training (80%).

The analysis of maternal and child factors related to readiness for toilet training in Pekon Sudimoro, Kabupaten Tanggamus, is presented in Table 2.

Table 2.
The correlation between mother and child factors and readiness for toilet training

Characteristics	Toilet Training Readiness				Total	p	OR (CI 95%)
	Not Ready		Ready				
	n (40)	%	n (40)	%			
Mother							
Age							
Early adulthood	7	17.5	21	52.5	28	0.563	1.667 (0.007– 0.543)
Late adulthood	2	5	10	25	12		
Education							
Primary	6	15	9	22.5	15	0.068	0.371 (0.292 – 0.890)
Secondary	3	7.5	13	32.5	16		
Higher	0	0	9	22.5	9		
Knowledge							
Good (76-100%)	1	2.5	21	52.5	22	0.003*	0.60 (0.264 – 5.208)
Fair (56-76%)	8	20	10	25	18		
Poor (<56%)	0	0	0	0	0		
Toddler							
Age (Month)							
12 – 18	7	17.5	7	17.5	14	0,002*	0,374 (0,257 - 5,680)
18 – 24	2	5	4	10	6		
24 – 36	0	0	20	50	20		
Sex							
Male	5	12.5	10	25	15	0,204	3,248 (1,250 - 5,582)
Female	4	10	21	52.5	25		

*significant (Chi Square)

The analysis of maternal factors shows that mothers in the early adulthood category have children ready for toilet training (52.5%). Age is a significant factor that influences the level of knowledge. Younger individuals (productive age) tend to absorb new information faster than older adults (non-productive age), as life experiences in adulthood often shape the mindset and make it more resistant to change (Notoatmodjo, 2014). However, the analysis of maternal age and children's readiness for toilet training reveals no significant relationship ($p>0.05$). It contradicted the findings of previous research, which stated that mothers in early adulthood are more active, more prepared, and more mature in fulfilling their role as mothers and have more experience in raising and educating children (Widadi, 2022).

In addition to age, maternal education also plays a role in children's readiness for toilet training. Mothers with secondary education (high school level) tend to have children ready for toilet training (32.5%). Individuals with secondary education usually possess a sufficient knowledge base, enabling them to comprehend and absorb information better than those with only primary education (Jatmiko et al., 2015). However, the analysis indicates maternal education has no significant relationship with a child's readiness for toilet training ($p>0.05$). It may be due to higher-educated

mothers often occupied and spending more time at work, which can lead to reduced attention toward their children (Evianto et al., 2023).

Unlike age and education, maternal knowledge significantly correlated with toilet training readiness. Mothers with good knowledge are more likely to have children prepared for toilet training (52.5%). The statistical analysis reveals that maternal knowledge is significantly associated with toilet training readiness ($p = 0.003$), with an Odds Ratio (OR) of 0.6. It means that mothers with good knowledge have a 0,6 times greater chance of having a child ready for toilet training than mothers with adequate knowledge. The success of toilet training depends on the readiness of both the child and the family. Therefore, parental knowledge is closely linked to the success of toilet training, as a lack of parental knowledge can lead to failure in the process (Murhadi et al., 2019).

Regarding child factors, age characteristics indicate that readiness for toilet training is more prevalent in children aged 24-36 months (50%). The child's age is significantly related to readiness for toilet training ($p = 0.002$, OR= 0.374), which means that children aged 24-36 months are 0.374 times more likely to be ready for toilet training than 18-24 months. This finding is consistent with previous study, where 61.5% of children aged 25-36 months succeeded in toilet training, compared to 68.3% of children aged 12-24 months. At 18-24 months, children typically begin to exhibit physical, psychological, and intellectual readiness for toilet training due to their sphincter muscles developing better control (Greer et al., 2016; Nuhan & Ribek, 2021). Moreover, other studies also emphasize that a child's age plays a crucial role in their readiness for toilet training. Developmental signs were significantly more apparent in children who had initiated toilet training and became increasingly prevalent as the training progressed. Age is associated with most of these developmental milestones. Specifically, the ability to understand and follow instructions and an expanded vocabulary were markedly more evident once toilet training had begun (Wyndaele et al., 2020).

Considering gender factors, readiness for toilet training was more common among girls (52.5%) than boys. However, the analysis reveals no significant relationship between the child's gender and their readiness for toilet training ($p > 0.05$). It may be because both boys and girls in Pekon Sudimoro still frequently use diapers at night. Nevertheless, the literature suggests that girls generally achieve toilet training faster than boys, as girls' nervous systems develop earlier. Girls begin controlling their bladder by 18 months, while boys start around 22 months (Ayu, et al., 2021). Additionally, boys tend to have a higher incidence of bedwetting than girls (Tiausti, 2020).

LIMITATION OF THE STUDY

The limitation is that the research involved only several maternal and child factors regarding toilet training readiness in children, with a relatively small sample size. Future research should include more independent variables and a larger sample size to enable a multivariate analysis of causal relationships.

CONCLUSIONS AND SUGGESTIONS

The research findings reveal that maternal knowledge and the child's age are significantly associated with the child's readiness for toilet training in Pekon Sudimoro, Kabupaten Tanggamus. Consequently, mothers should enhance their knowledge about toilet training and consider the child's age to facilitate readiness for this developmental milestone.

ETHICAL CONSIDERATIONS

The study was approved by the research ethics committee at the Faculty of Health, Universitas Aisyah Pringsewu, Lampung, Indonesia (No. 060/UAP.OT/KEP/EC/2023).

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Conflict of Interest Statement

The authors declare that there is no conflict of interest.

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