

The Effect Of Finger Puppet On Pain Intensity During Infusation In Preschool Children

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ABSTRACT

The main stressor for children when undergoing treatment is fear of pain. Untreated pain experiences lead to physiological and psychological consequences in children over a long period of time. The purpose of this study was to determine the effect of finger puppets on pain intensity during infusion installation in pre-school children in the cilinaya room of RSD Mangusada.

This study used quasi-experimental with non-equivalent with control group design post-test only, the intervention group was given finger puppets during infusion installation and the control group accompanied by parents with a sample number of 15 respondents each. The sampling technique is accidental sampling with inclusion and exclusion criteria. Data collection instruments in the form of finger puppet therapy SOPs and FLACC observation sheets were analyzed univariately and bivariate with independent sample tests.

The average pain was 3.20 in the intervention group and 7.67 in the control group and the independent sample test found a p value of 0.000 which means that there is an effect of finger puppet administration on pain intensity during infusion in pre-school children. Finger puppets are effectively applied in the pediatric care room of RSD Mangusada to reduce the intensity of pain during infusion installation.

Keywords: *finger puppet; Infusion; Pain*

ABSTRAK

Stressor utama anak saat menjalani perawatan adalah takut akan nyeri. Pengalaman nyeri yang tidak ditangani menyebabkan konsekuensi fisiologis dan psikologis pada anak dalam jangka waktu panjang. Tujuan penelitian ini untuk mengetahui pengaruh *finger puppet* terhadap intensitas nyeri saat pemasangan infus pada anak pra sekolah di ruang cilinaya RSD Mangusada. Penelitian ini menggunakan *quasi experimental* dengan *non-equivalent with control group design post-test only*, kelompok intervensi diberikan *finger puppet* selama pemasangan infus dan kelompok kontrol hanya ditemani orang tua dengan jumlah sampel masing-masing kelompok 15 responden. Teknik sampling adalah *accidental sampling* dengan kriteria inklusi dan eksklusi.

Instrumen pengumpulan data berupa SOP terapi finger puppet dan lembar observasi FLACC yang dianalisis secara univariat dan bivariat dengan independent sample T test.

Rata-rata nyeri yaitu 3,20 pada kelompok intervensi dan 7,67 pada kelompok kontrol dan uji independent sample T test menemukan *p value* sebesar 0,000 yang artinya ada pengaruh pemberian *finger puppet* terhadap intensitas nyeri saat pemasangan infus pada anak pra sekolah. *Finger puppet* efektif diterapkan di ruang perawatan anak RSD Mangusada untuk mengurangi intensitas nyeri saat pemasangan infus.

Kata Kunci: *finger puppet*; nyeri; infus

INTRODUCTION

Hospitalization or hospitalization is an unpleasant experience for children. Hospitalization is often the first crisis a child must face. Children are very vulnerable to stress due to changes in health conditions and environmental routines. During hospitalization, children think about leaving the familiar places of their home and the people who are important to them, and stop their favorite activities, including playing (Salmela, 2010). The main stressor for children when they have to undergo treatment during hospitalization is fear of ` that will injure their body and cause pain (Wilson, 2017). Researchers regarding the prevalence of pain and the main sources causing pain in 200 children who were treated in hospital stated that the act of installing an IV was the first action that caused pain with the results being 83% experienced by pre-school aged children (Immawati *et al.*, 2022).

Pain is a highly individual and subjective experience that can affect adults and children of all ages. Pain can originate from a number of causes, including disease processes, injuries, procedures and interventions. Children have a lack of verbal capacity to explain the pain they feel, therefore pain is a major source of serious emotional distress. Pain experiences that are not treated as early as possible can cause physiological and psychological consequences for children in the long term (Fatimah and Nuryaningsih, 2018). The perception of pain in children is complex and children often undergo medical procedures that are applied using needles, such as injections and immunizations which are considered to be the most frequent sources of pain and cause stress and anxiety for children and their parents (Padang, 2015). One of the procedures that is routinely carried out is an invasive procedure, namely the installation of an IV drip. This intravenous therapy procedure

causes acute pain conditions for children, meaning that the pain felt only lasts for a short period of time, around 1 minute during the stabbing (Kozlowski, 2012). Invasive procedures, whether painful or not, are a threat to preschool-aged children because they perceive them as a source of damage to their body integrity (Wahyudi, 2016). Various methods are used to reduce pain when a child is placed on an IV drip. Previous research conducted found that animated videos were effective in controlling children's anxiety when installing an IV (Triana, Sukmandari and Lestari, 2023). In this study, researchers were interested in using finger puppets or hand puppets because puppets made to resemble various figures can trigger children to play roles according to the shape of the puppet and can divert the child's attention from the pain they are experiencing. Based on research the use of non-pharmacological methods to overcome pain problems in children is easier and can be done by nurses. The technique that can be used is to use distraction techniques (Sukmandari, K. Yogi Triana and Sutarsih, 2021).

METHOD

This study used a quasi experimental with a non-equivalent with control group post-test

only design with the intervention group being given a finger puppet during infusion while the control group was only accompanied by their parents. This research was conducted in the Cilinaya Room, Mangusada RSD, Badung-Bali Regency. Based on preliminary studies, up to now, the Cilinaya room at Mangusada Hospital has never given finger puppets to children who have had IVs installed. The sampling technique used in this study was accidental sampling with the inclusion criteria being pre-school aged children who would be given an IV in the Cilinaya room and who were willing to be respondents, while the exclusion criteria were children who were forced to go home or move rooms before the IV was installed. The samples in this study consisted of 30 samples with 15 treatment groups and 15 control groups. This research was conducted for 1 month where samples with odd numbers were the intervention group and even numbers were the control group. The data collection method used a finger puppet SOP created by the researcher as well as an observation sheet for the Face, Legs, Activity, Cry, Consolability (FLACC) pain measurement scale, which is a pain measurement scale that is good for use in children aged 2 months to 7 years. This scale consists of five assessments, namely face,

legs, activity, crying and consoleability. The total score on this scale is 0 (no pain) to 10 (severe pain). The results of this research were analyzed univariately and bivariately. Bivariate test using the independent sample T test with a significance value of 0.05. This research adheres to ethical principles by maintaining the confidentiality of respondents' names, namely by using only the patient's initials, not forcing patients to become respondents by signing informed consent by parents and children, and not harming patients. This research also uses the principle of fairness by not discriminating

between respondents. This research has been declared ethically sound by the ethics commission of RSD Mangusada Badung with ethical clearance number 070/10001/RSDM/2023.

RESULTS AND DISCUSSION

Based on the results of the research conducted, 30 respondents were obtained, consisting of 15 respondents in the intervention group who were given finger puppets and 15 respondents in the control group who were only accompanied by their parents when installing the IV.

Table 1. Characteristics of respondents based on gender and age

Characteristics	Finger Puppet Group		Control Group	
	n	%	n	%
Gender :				
Male	8	26,7%	7	23,3%
Female	7	23,3%	8	26,7%
Total	15	50%	15	50%
Age (month) :				
mean	28,27		26,13	
median	26,00		28,00	
min	14		15	
max	44		38	

Table 1 shows that in the intervention group most of the respondents were male, 8 (26.7%) respondents and the average age was 28 months, the minimum age was 14 months and the maximum age was 44 months. In the control group, most of the respondents were 8 (26.7%) women, the

average age was 26 months, the minimum age was 15 months and the maximum age was 38 months. The age of respondents in this study was an average of 1.5 – 3.5 years. According to Piaget, the cognitive development of children aged 1.5 – 3.5 years is in the pre-operational stage which is

characterized by a way of thinking that is neither inductive nor deductive but not logical. At this age, children's thinking activities do not yet have an organized system, their way of thinking is unsystematic, inconsistent and illogical. The results explain that gender differences

between boys and girls do not really influence the pain response because they are only influenced by sensitivity, expression experience, and situational conditions that influence and how children respond to pain (Wulandari, Setyaningsih and Nurul Afni, 2020).

Table 2. Analysis of pain during infusion in the intervention and control groups

	Finger Puppet Group	Control Group
Pain scale :		
mean	3,20	7,67
median	3,00	7,00
min	1	6
max	5	10

Table 2 shows the average pain scale during infusion in the group given the finger puppet, namely 3.20 with a minimum pain scale of 1 and a maximum of 5, while in the

control group the average pain scale was 7.67 with a minimum pain scale of 6 and a maximum of 10.

Table 3. Analysis results of Data Normality Test and Independent Sample T test

	Mean ± SD	(Min-Max)	Normality data test	p value
Finger puppet group	3.20 ± 1.082	1-5	0.200	0.000
control group	7.67 ± 7.00	6-10		

Table 3 shows that in the intervention group the average pain scale was 3.20, the standard deviation was 1.082 with a minimum pain scale of 1 and a maximum of 5. This could be said to be that the intervention group was in the mild pain category. The control group mean value was 7.67, standard deviation

7.00 with a minimum pain scale of 6 and a maximum of 10 or the severe pain category. The results of the data normality test using the Shapiro Wilk test obtained a p value of 0.200 (> 0.005) so that the data was normally distributed, so the data was analyzed using the Independent Sample T

Test and showed a p value of 0.000 so that there was an effect of giving finger puppets on the intensity of pain during infusion. Preschool children in the Cilinaya room at RSD Mangusada.

Children who are admitted to hospital will feel afraid because of the feeling of insecurity and discomfort due to pain. Children who are being cared for will become more anxious and afraid if they think about pain, violence, and separation from loved ones (Rahayu, 2019). Children with a slow to warm up temperament are less able to express pain than the pain they actually experience. Children with a calm or easy temperament type (not resisting and cooperating) can mention the scale of pain they feel than children with a difficult temperament type (resist and attack) (Wilson, 2017). Stated that previous pain experiences influence a person's perception of pain (Wilson, 2017). Research explains that previous pain experiences in pediatric clients are related to fear over time and influence new pain experiences (Wauters *et al.*, 2023).

The perception of pain in children is complex and children often undergo medical procedures that are applied using needles, such as injections and immunizations which

are considered to be the most frequent sources of pain and cause anxiety for children and parents (Immawati *et al.*, 2022). Anxiety, discomfort and trauma due to the pain experienced during the invasive procedure of infusion make it difficult for nurses to carry out invasive procedures. One of the discomforts experienced by children during invasive procedures is pain. Invasive procedures involving infusion are the second most common source of pain felt by children after the disease they are suffering from (Legi, Sulaiman and Purwanti, 2019). Research found that animated videos could be an intervention of choice to control children's anxiety when installing an IV (Triana, Sukmandari and Lestari, 2023). Research found that there was a significant influence between puzzle playing therapy on anxiety levels due to hospitalization of toddlers. Children who are hospitalized can be given puzzle playing therapy to reduce the anxiety response they face (Sukadana, Sukmandari and Triana, 2020). The average pain scale in the control group was greater than intervention groups 1 and 2, and the average satisfaction score in the control group was lower than intervention groups 1 and 2 so that playing finger puppets effectively reduced pain (Kurt and Seval, 2021). Another study found that there was

an influence of using cartoon motif vests on the anxious behavior of preschool children during the IV periset injection procedure (Sukmandari, K. Yogi Triana and Sutarsih, 2021). Another Research found that there was an effect of giving storytelling treatment with finger puppets on the pain levels of preschool-aged children when installing an IV (Wulandari, Setyaningsih and Nurul Afni, 2020). Attention diversion techniques using storytelling methods that are appropriate to the child's developmental stage will have a significant influence in reducing physiological pain, stress and anxiety in diverting a person's attention from painful stimuli (Hayati, Syatriawati and Wahyuni, 2018).

CONCLUSION

There is an effect of giving finger puppets on the intensity of pain when installing IV fluids for pre-school children in the cilinaya room at Mangusada RSD. Finger puppets are a distraction technique that can be applied as an effort to implement atraumatic care in children's care rooms and are effective in reducing the intensity of pain when installing an IV.

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