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APPLICATION OF VISUAL DISTRACTION TECHNIQUES ON PAIN LEVELS DURING INFUSION INSTALLATION IN PRESCHOOL CHILDREN (3-5 YEARS) IN THE EMERGENCY ROOM

Ida Farida[1]*, Ahmat Pujianto[2]*, Hendy Lesmana[2], M. Akbar Nugraha[2]

[1] RSUD dr. H. Jusuf SK, Kalimantan Utara, Indonesia
[2]Nursing Departement, Borneo Tarakan University, Indonesia

*Correspondence
Author Name: Ahmat Pujianto
Email: ahmatpujianto@borneo.ac.id

Abstract

Hospitalization can cause stress and anxiety in children of at all ages. During the hospitalization, children often face unexpected experiences and undergo procedures that cause pain. IV insertion is one such procedure that induces pain in children. One non-pharmacological techniques that is simple, can be performed by nurses, and is theoretically effective in reducing pain during invasive procedures in children is visual distraction. Distraction is a method to alleviete pain by diverting attention to something else, making the child forget the pain experiencing. Visual distraction is effective in reducing pain in children, sush as by watching videos of Upin & Ipin. The aim of this scientific paper is to apply visual distraction techniques to the pain scale of children during IV insertion in preschool children. The study population consists of children aged 3-5 years who underwent IV insertion in the emergency room. This paper involves two children who received IV insertion with visual distraction. Pain was measured using the Wong-Baker Faces pain scale. The results showed that Child A had a score of 2 (mild pain) and Child N had a score of 3 (mild pain) with the application of visual distraction therapy. The application of visual distraction techniques can reduce the pain level during IV insertion in preschool children at RSUD dr. H Jusuf Sk Tarakan.

Keywords: *IV Insertion, pain level, visual distraction.*

INTRODUCTION

Staying in the hospital can cause worry and anxiety in children. Anxiety can come from various sources, including hospital personnel (such as doctors, nurses, or other health workers), the child's unfamiliar environment, and how the child's family supports them during treatment (Pulungan, 2017). Children always have unexpected experiences in the hospital, and they also have procedures that hurt them (Sarfika, 2015). Infusion is inserting electrolyte fluids, drugs, or nutrients into a vein in a certain amount and time using an infusion set (Yolanda, 2021).

The World Health Organization (WHO) has collected surveillance data showing that 85% of children receive infusions annually in hospitals, especially in emergency units. Based on these figures, 120 million of the 190 million hospitalized patients use infusions (Suprapto, 2016). In Indonesia, in 2022, there was an increase in the percentage of children experiencing health complaints by 28.81% or an increase of 4.13% compared to the previous year. According to Sartika (2015), children experience challenging, unique, subjective, and frequent pain. Untreated pain can make children reluctant and resistant to treatment, which can hinder healing. Unresolved pain has psychological

effects and can cause behavioural disorders such as stress, worry, fear, and sleep disorders. When providing services to children, the main goal is to reduce the pain and suffering arising from medical care experienced by children (McCarthy & Kleiber, 2006) (Sarfika, 2015). This is so that no one is harmed in the primary goal of services that do not produce trauma (also known as "atraumatic care" for children).

Relaxation techniques are a new class of non-pharmacological therapeutic strategies to Help children manage their pain. Distraction is one relaxation method that can be used (Youanda, 2021). By refocusing the client's attention away from pain, an approach known as distraction can be utilized to reduce discomfort (Akhyar, 2021). Previous research on the relationship between visual disturbances and pain levels in preschool children was conducted by infusion Muhammad Akhyar, Evy Marlinda, Hj. Zainab and Bisepta Prayogi, in 2021, aimed to understand the potential adverse effects of visual distraction techniques on pain levels.

Based on medical record data from January to April 2024 at the Emergency Room of RSUD dr. H. Jusuf SK Tarakan, the average number of pediatric patient visits was 45-50 patients per month. To reduce pain during infusion in children at RSUD, dr. H. Jusuf SK Tarakan, there is no specific intervention; it only recommends deep breathing relaxation intervention. This scientific paper aims to present a visual distraction technique on the pain scale of children during infusion installation in preschool children. Based on the description above, the author is interested in discussing "The Application of Visual Distraction Techniques on the Level of Pain During Infusion Installation in Preschool Children (3-5 Years) in the Emergency Installation of Dr. H. Jusuf SK Tarakan Hospital"

METHODS

The design of this study is descriptive and analytical in the form of a case study by conducting nursing care, including assessment, diagnosis, intervention, implementation, and evaluation. The population of this study consisted of children aged 3-5 years who were given IVs in the ER. This paper involves two children who were given an IV with visual distraction. Pain measurement uses the Wong-Baker Faces Pain Scale.

RESULTS

Based on the results of this study, data was obtained on 2 patients with Dengue Fever as follows:

Table 1. Main Complaints of Patients Patient 1 and Patient 2 with Dengue Fever in the Emergency Installation

Patient 1	Patient 2
The patient came accompanied by his parents with complaints of high fever since 6 days ago, headache, cough, weakness, and nosebleed once.	The patient accompanied his parents with complaints of high fever since 5 days ago, headache, weakness, cough, and runny nose.

Table 2. Physical Examination of Patient 1 and Patient 2 with Dengue Fever in the Emergency Installation

Physical Examination	Patient 1	Patient 2
General Condition	Medium, Composmentis Consciousness	Medium, Composmentis Consciousness
Vital Signs	Pulse 110X/Minute Temperature 38.10c Respiration 22 X/Minute SpO2: 98%	Pulse 115 X/Minute Temperature 37.80c Respiration 24 X/Minute SpO2: 98%
Anthropometry	Height 84 cm Weight 12 kg	Height 83 cm Weight 13 kg

Table 3. Nursing Diagnosis of Patients An. A and An. N with Dengue Fever in the Emergency Installation

Patient	**Nursing Diagnosis**
An. A	Hyperthermia (D.0130) is related to the disease process as evidenced by: The patient's parents said that their child had a high fever for the past 6 days, the client appeared weak and restless, dry lips, skin felt warm, Pulse: 110x/minute, Temperature: 38.10c, RR: 22 X/minute.
An. A	Bleeding Risk (D.0012) related to Coagulation Disorders (Thrombocytopenia) as evidenced by: The patient's parents said their child had a nosebleed 1x SMRS, the client looked weak, dry lips, Platelets: 150 10^3 cells, Lymphocytes: 62.0%
An. N	Hyperthermia (D.0130) is related to the disease process as evidenced by: The patient's parents said that their child had a high fever for the past 5 days, the client appeared weak and restless, dry lips, skin felt warm, Pulse: 115x/minute, Temperature: 37.80c, RR: 24 X/minute.
Patient 2	Risk of Bleeding (D.0012) related to Coagulation Disorders (Thrombocytopenia) as evidenced by: the client appears weak, dry lips, Platelets: 148 10^3 cells, Lymphocytes: 55.0%.

DISCUSSION

Dengue Fever is the same medical diagnosis shared by both participants. Dengue virus (DENV) serotype 1-4 is the source of dengue fever, an infectious disease spread by the Aedes Aegpty mosquito (Guzman, 2015); primary and secondary infections are two types of infections that the dengue virus can produce. The following are the results of the study: Patient Identity: According to the criteria of Patient 1. and Patient 2., respectively, namely 4 years, 3 years, and 9 months, they

implemented the identity assessment acutely with the same nursing problems, namely moderate and severe acute pain. This aligns with previous studies that found that children under 15 are most dengue fever patients (Dias Junior, 2017). Reason for Hospitalization: After reviewing the reasons for hospitalization, it was found that the same symptoms were made: fever on the fifth and sixth days, headache, weakness, and in An. a history of one nosebleed before hospitalization. Pain in the retroorbital area, myalgia, and arthralgia are also commonly observed in most cases of dengue fever. Petechiae are one of the most common bleeding symptoms in cases of dengue infection. Other common symptoms of bleeding include epistaxis, bleeding gums, hematemesis, melena, hypermenorrhea, and hemoglobinuria.

Main Complaints, data were obtained from An during the implementation of the assessment.A and Patient 2, who have dengue fever and the same nursing problem, namely hyperthermia. According to (PPNI, 2017), signs and symptoms that reflect hyperthermia are divided into significant symptoms, namely body temperature above normal values and minor symptoms, namely red skin, seizures, Tachycardia, tachypnea, and warm skin. Health History: The health history assessment found the primary complaints before admission to the hospital in Patient 1 and Patient 2 were high fever for 5-6 days, headache. According to Baitanu (2022), Dengue Fever is an acute febrile disease that shows primary symptoms such as bone or joint and muscle pain, headache, leukopenia, and rash. This proves that the patient's primary complaint is the acute phase of non-specific fever, such as headache, weakness, nausea, and vomiting, which are early manifestations of Dengue infection (Enny, 2023). 5) Diagnostic Supporting Examination

The assessment of diagnostic supporting examination found that the levels of leukocytes Patient 1 4.39 10^3 cells and Patient 2 4.35 10^3 cells, Platelets Patient 1 150 10^3 cells and Patient 2 148 10^3 cells, this statement is by WHO (2011) in Melly (2022) that hematological examination, dengue infection in dengue fever found leukopenia (leukocytes ≤ 5000 / mm3), thrombocytopenia (platelet count ≤ 150,000 / mm3), increased hematocrit 5-10%. This proves that there is a relationship between the number of leukocytes and platelets decreasing with dengue infection. Based on the results of the study and diagnosis, it was found that both patients, Patient 1 and Patient 2, received the same medical diagnosis and nursing diagnosis, namely dengue fever with a nursing diagnosis of hyperthermia. The data used to determine the nursing diagnosis is more focused on examining both patients, and the patient's results show complaints of fever 5 to 6 days ago with objective data that seems soft.

This is consistent with Prasetyo's statement (2023) that symptoms often manifest 4-7 days after a mosquito bite. Some symptoms are high fever, joint/muscle discomfort, headache, pain behind the eyes, abdominal pain, nausea, vomiting, decreased appetite, weakness, and red areas on the body. The Indonesian Nursing Outcome Standard (SLKI, 2019) used is improved Thermoregulation with Code L.14134, where this outcome has expectations of decreasing and improving; the expected outcome criteria are complaints of decreased Tachycardia and decreased pallor, expectation scoring

1 (Improved), 2 (Quite Decreased), 3 (Moderate), 4 (Quite Increased), 5 (Decreased). The criteria for improved expectations have the results of improved body temperature, improved skin temperature, improved blood pressure, and improved capillary refill, with expectation scoring 1 (Worsening), 2 (Quite Deteriorated), 3 (Moderate), 4 (Quite Improved), 5 (Improved)—the criteria for these findings in patients Patient 1 and Patient 2 are complaints of Tachycardia, dry lips, warm skin, complaints of hyperthermia, and fever that started five to six days ago with objective data looking weak and restless, temperature 38.10 ° C to 37.80 ° C.

Each nurse can readily identify the steps of therapy because of the way the care plan is written. Transferring care from one nurse to another is made simple with a well-developed nursing care plan. This allows each nurse to provide high-quality care consistently.

Observations include recognizing the causes of overheating, monitoring body temperature, electrolyte levels, and urine output, and monitoring for complications from overheating. For teaching, lying down is recommended. Therapy includes providing a calm environment, loosening or removing clothing, wetting and fanning the body surface, giving oral fluids, changing linens daily or more frequently if hyperhidrosis (excessive sweating) is present, and providing external cooling (such as using hypothermia blankets or cold compresses to the forehead, neck, chest, abdomen, and axillae).

Regarding managing hyperthermia, collaboration is limited to one intervention: providing fluids and electrolytes as needed. Regarding the new intervention, the author used the Visual Distraction technique to reduce or prevent patient pain during infusion procedures in the hospital, according to previous publications. Another strategy involves applying distraction techniques such as watching animated cartoons to address pain management issues during infusion procedures involving preschool patients (3-5 years) (Youanda, 2021).

The results of the 7-hour evaluation showed improved thermoregulation. Based on the results obtained, there was a decrease in Patient 2 temperature from 370c to 36.40c and Patient 2 from 37.80c to 36.60c, while for the pain scale during infusion, the pain level in Patient 1 was on a pain scale of 2, and Patient 2 was on a pain scale of 3; this was evidenced by the patient's non-verbal response, namely appearing relaxed, calm, not crying, and improving vital signs when the infusion was performed.

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Case study on the Application of Visual Distraction Techniques to Pain Levels During IV Infusion Installation in Preschool Children (3-5 Years) in the Emergency Room of RSUD dr. H. Jusuf SK Tarakan. was carried out for 7 hours by observing two patients, namely Patient 1 and Patient

2. A number of factors hindered the implementation of the case study, including: 1). The researcher's time constraints and case limitations meant that the evaluation received by the author was limited to acute pain nursing problems, and the transfer of patients to the treatment room prevented continuous evaluation. 2). During the case study, the author took samples that had moderate and severe pain scales that were given IVs.

CONCLUSION

Based on the results of a case study on Patient 1 and Patient 2 with the Application of Visual Distraction Techniques on Pain Levels During Infusion Installation in Preschool Children (3-5 Years) in the Emergency Room of Dr. H. Jusuf SK Tarakan Hospital, the results of the analysis of the application of Visual Distraction techniques greatly influenced patients Patient 1 and Patient 2 because after the application of hyperthermia management interventions and Visual Distraction technique innovation interventions during infusion installation, a mild pain level was obtained in Patient 1 with a pain scale of 2 and Patient 2 with a pain scale of 3 as well as non-verbal reactions of patients who appeared relaxed, calm, did not cry and vital signs did not increase during infusion installation.

CONFLICT OF INTEREST

The authors have no conflicts of interest related to this research.

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