# The Effect of Storytelling Method on Pain Reduction in Children with Acute Lymphoblastic Leukemia (ALL)

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## ABSTRACT

*Acute Lymphoblastic Leukemia (ALL) is the most common type of blood and bone marrow cancer in children. The most important and frequently encountered impact of ALL on children is pain. Pain in children can be treated with non-pharmacological therapy, namely storytelling therapy. Children can distract (distract) their feelings of pain and relax during treatment at the hospital because they feel happy and comfortable when listening to stories. The aim of this case study aims to determine the effect of the storytelling method on reducing pain in children with Acute Lymphoblastic Leukemia (ALL) in the Wijaya Kusuma Chemotherapy Room, Margono Soekarjo Hospital, Purwokerto. This case study design uses a descriptive design with a shelter housing approach. The subject of this case study was 1 respondent who met the inclusion and exclusion criteria, using purposive sampling. Data were collected using fairy tale script instruments and a numerical rating scale. The results of the case study showed a decrease in the pain scale after storytelling therapy was carried out for 3 meetings, resulting in results from scale 6 (Moderate Pain) to scale 2 (Mild Pain). So it can be concluded that the storytelling method can be recommended for children suffering from ALL because it is effective in reducing the pain scale.*

***Keywords: Acute Lymphoblastic Leukemia (ALL), Pain Level, Storytelling Therapy***

## 1. INTRODUCTION

Acute Lymphoblastic Leukemia (ALL), also called acute lymphocytic leukemia, is a cancer of the blood and bone marrow. This type of cancer usually gets worse quickly if left untreated. Leukemia is the most common type of cancer in children. A healthy child has bone marrow that produces blood stem cells (immature cells) that become mature blood cells over time. A stem cell can be a myeloid stem cell or a lymphoid stem cell (Kurniawan & Pawestri, 2020).

Leukemia is a malignancy of blood cells originating from the bone marrow, characterized by proliferation of white blood cells, with manifestations of abnormal cells in the peripheral blood. Acute childhood leukemia accounts for 30-40% of all malignancies in children under the age of 15 (Tarigan *et al*., 2019).

The World Heart Organization (WHO) states that the rate of leukemia patients in Europe is 80% and acute myeloblastic leukemia (LMA) 20% of leukemia patients. The incidence of LLA is high in the US, with an estimated 6000 cases of LLA diagnosed each year with a higher ratio of males compared to females. The incidence of pediatric LLA in Australia by age and sex per 100,000 children in 2012 was 7.9 in boys and 5.4 in girls aged 0-4 years, 3.9 in boys and 3.7 in girls aged 5-9

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years, and 2.9 in boys and 2.0 in girls aged 10-14 years (Tarigan *et al.,* 2019).

Whereas in Indonesia every year, around 150,000 people are affected by the type of Acute Lymphocytic Leukemia, and the mortality rate is quite high (WHO, 2019). Leukemia is the most common childhood cancer with an incidence rate of 2.8 per 100,000 people (Indonesian General Practitioners Association (2020), in Central Java Province, leukemia cases in 2018 reached 2.1%. This figure increased to 3.0% in 2019, according to the Central Java Provincial Health Office (2021).

The most common and frequent negative impact of ALL in children is pain. The pain symptoms of ALL are pain in the bones and abdomen. Pain in children that is not treated quickly can have an impact on physical and behavioral aspects. The physical impact usually occurs in the short term, characterized by an increase in metabolic rate and the volume of blood pumped by the heart. Meanwhile, the long-term impact of persistent pain can increase the child's stress and make them unable to carry out their usual activities (Khasanah & Rustina, 2019).

Non-pharmacological therapy that can be used to reduce pain levels in children with leukemia is storytelling therapy. Storytelling involves communication in the form of oral or written storytelling. These stories can come from culture, history, fantasy, or natural phenomena and generally contain moral values and are entertaining. Therefore, storytelling can be an effective therapy to help relieve pain in children, by diverting feelings that may arise from the disease or the effects of treatment (Rahayu *et al*., 2023).

Storytelling is a distraction method that shifts the focus of attention from the pain to other stimuli. External stimuli can trigger the release of endorphins, which in turn reduces the intensity of the pain felt, thus improving the child's quality of life (Kurniawan & Pawestri, 2020). The study results are also supported by research conducted (Putu, 2018) that providing storytelling interventions can reduce pain levels in patients with ALL.

The formulation of the problem in this ners final scientific work is "Is there an Effect of Storytelling Method on Pain Decrease in Children with Acute Limpoblastic Leukimia (ALL) in Wijaya Kusuma Room, Margono Soekarjo Purwokerto Hospital". This case study aims to determine the effect of the fairy tale method can help reduce pain in children with Acute Limpoblastic Leukemia (ALL) in the Wijaya Kusuma Room at Margono Soekarjo Purwokerto Hospital.

## 2. METHODS

This case study uses a descriptive design with a nursing approach. The subjects in this case study were Acute Lymphoblastic Leukemia (ALL) patients who were hospitalized in the Chemotherapy Room Wijaya Kusuma Margono Soekarjo Purwokerto Hospital. Case study subjects amounted to 1 respondent. Taking case study subjects using purposive sampling technique. The inclusion criteria in this case study were children with Acute Lymphoblastic Leukemia (ALL) who experienced mild-moderate pain, age, gender and parents who agreed to be applied, while the exclusion criteria were children with Acute Lymphoblastic Leukemia (ALL) who experienced severe pain.

This case study instrument is a fairy tale script (day one rapunzel, day two cinderela, day three beuty and the beast), using a pain measurement tool (numerical rating scale) adopted from research (Kurniawan & Pawestri, 2020). The data collection process is carried out before and after storytelling therapy for 3 meetings, each meeting is approximately 15-20 minutes. Then the case study data is managed and analyzed to determine the decrease in the level of pain scale in respondents after storytelling therapy is then presented in tabular form.

## 3. RESULT AND DISCUSSION

### 3.1 Result

**Table 1. Pain Scale of Children with Leukemia Before Storytelling Therapy**

| No | Name | Pain Scale | Description |
|----|------|-----------|-------------|
| 1. | Child J | 6 | Moderate Pain |

Based on Table 1, before the storytelling therapy, the pain scale experienced by An. J was 6, which is included in the moderate pain category.

**Table 2. Pain Scale of Children with Leukemia After Storytelling Therapy**

| No | Name | Pain Scale | Description |
|----|------|-----------|-------------|
| 1. | Child J | 2 | Mild Pain |

Based on table 2 shows that the pain scale after storytelling therapy is An. J with a scale of 2 is included in the mild pain category.

**Table 3. Pain Scale of Children with Leukemia Before and After Storytelling Therapy**

| Day to | Child J Before | Child J After |
|--------|---------------|---------------|
| Day 1 | 6 | 4 |
| Day 2 | 4 | 3 |
| Day 3 | 3 | 2 |

Table 3 illustrates the development of the pain scale in pediatric patients with leukemia. On the first day, An. J experienced pain with a scale of 6 (moderate pain), but after undergoing storytelling therapy, the pain level dropped to a scale of 4 (still in the moderate pain category).

Day 2 An. J experienced pain on a scale of 4 (moderate pain category), and after storytelling therapy, the pain level decreased to a scale of 3 (mild pain category).

On the third day, An. J experienced pain on a scale of 3 (mild pain category). After being given storytelling play therapy, the pain level dropped to scale 2 (still in the mild pain category).

### 3.2 Discussion.

#### 3.2.1 Pain scale of children with leukemia before storytelling therapy

Based on table 1, it shows that the pain scale before storytelling therapy was carried out, namely An. J with a scale of 6 is included in the moderate pain category.

Pain conditions experienced in respondents with ALL occur due to the disease process itself or the effects of chemotherapy drugs. This condition can affect the child, the child will have difficulty playing, so it is necessary to play activities that do not require a lot of energy, one of which is by listening to stories (Agustini & Mariyam, 2022).

This study is in line with research conducted by Simatupang and Wahyu (2023), which showed that the frequency distribution of pain levels in children with leukemia before the intervention of storytelling therapy in the control group showed that there were no respondents in the no pain category. As many as 40% of respondents experienced mild pain, 60% experienced moderate pain, and none experienced severe pain.

#### 3.2.2 Pain scale of children with leukemia after storytelling therapy

Based on table 2, it shows that the pain scale after storytelling therapy is carried out, namely An. J with a scale of 2 is included in the mild pain category.

Pain management in childhood leukemia includes pharmacological approaches by administering pain medications and non-pharmacological, one of which is storytelling. Interventions in the form of storytelling therapy can reduce anxiety levels in children because children's fears are reduced, children become more familiar with nurses and more familiar with the hospital environment and children will not feel bored because their time is filled with storytelling and storytelling activities. Storytelling has several advantages compared to other therapies, because storytelling can provide pleasure to children, instinctively pre-school children have pleasure in listening to stories. In addition, storytelling therapy is very effective for children who have limited energy to play. Storytelling therapy can build a familiar atmosphere between the child and the storyteller, which helps reduce the child's anxiety level, reduce pain, and become a means

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of channeling pent-up emotions in children (Padila, 2019).

Storytelling is a distraction method that shifts the focus of attention from the pain to other stimuli. External stimuli can trigger the release of endorphins, which in turn reduces the intensity of the pain felt, thus improving the child's quality of life (Kurniawan & Pawestri, 2020). The study results are also supported by research conducted (Putu, 2018) that providing storytelling interventions can reduce pain levels in patients with ALL.

### 3.2.3 Pain scale of children with leukemia before and after storytelling therapy

According to Table 3, the development of the pain scale in pediatric patients with leukemia shows that on the first day, An. J experienced pain with a scale of 6 (moderate pain category), but after the storytelling play therapy, the pain scale dropped to 4 (still moderate pain). On the second day, An's pain. J with a scale of 4 (moderate pain category)

## CONCLUSION

Based on the results of research related to Nursing Care in Children. J with *Acute Lymphoblastic Leukemia* (ALL) with the Storytelling Method on Pain Reduction in the Wijaya Kusuma Room, Margono Soekarjo Hospital, Purwokerto. So it can be seen that there is a decrease in the pain scale after the implementation of nursing:

1. Before storytelling therapy was performed, the pain scale in children with leukemia showed that An. J, with a pain scale of 6, is classified as moderate pain.

2. The pain scale in children with leukemia after undergoing storytelling therapy shows that the pain scale after storytelling therapy is carried out, namely An. J with a scale of 2 is included in the category of mild pain.

The pain scale of children with leukemia before and after storytelling therapy was carried out, the pain scale in children after 3 days of therapy application showed that on the 3rd day, An. J experienced pain with a scale of 3 (mild pain category). Then, after storytelling therapy, the pain level dropped to a scale of 2 (still in the category of mild pain), from the results showed

decreased to a scale of 3 (mild pain category) after storytelling therapy. On the third day, An. J started with a scale of 3 (mild pain), and after the storytelling play therapy, the pain scale dropped to 2 (mild pain category).

The influence of storytelling on pain levels in ALL sufferers is due to a feeling of pleasure and comfort when listening to stories. The child can divert (distract) his or her pain and relaxation during treatment in the hospital. Storytelling can be a play activity for children, children can joke, interact, spontaneously respond to the surrounding environment.

This is in line with the research conducted (Rahayu *et al.*, 2023). The storytelling method carried out 3 times in the meeting succeeded in reducing the level of pain in children with Acute Lymphoblastic Leukemia (ALL). Storytelling therapy in pediatric ALL patients can be used as an alternative strategy in providing services to pediatric patients with ALL.

that the storytelling method can be recommended in children with ALL because it is effective in reducing the pain scale.

## ADVISE

1. For Research Sites

Health workers in the Wijaya Kusuma Chemotherapy Room, Margono Soekarjo Purwokerto Hospital are expected to be able to provide non-pharmacological therapy to children with ALL. So that the level of pain in children can decrease.

2. For Educational Institutions

Educational institutions are expected to continue to support students in providing nursing care to children with ALL so that later patients and their families will know about the benefits of non-pharmacological therapy to reduce pain.

3. For Respondents

Respondents are expected to be able to understand and apply it in daily life so that the pain felt by children with ALL can be reduced.

4. For the next researcher

The next researcher is expected to be able to develop research by expanding the material on factors and prevention that can be done.

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