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Research Article

Storytelling Therapy Effectively Reduces Anxiety in Children with Leukemia at DR Wahidin Sudirohusodo General Hospital Makassar

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Abstract

Background: Children with leukemia are prone to experience anxiety due to various factors. Moreover, side effects of chemotherapy such as diarrhea, nausea, and vomiting add stress to the children. Storytelling therapy can be used as one of the non-pharmacological methods to reduce anxiety in children.

Objectives: seeing the effectiveness of storytelling therapy with audio-visual media in reducing anxiety in children with leukemia.

Methods: quantitative research with quasi-experimental: pretest-posttest without a control group. Anxiety in children is measured by Hamilton Anxiety Rating Scale (HARS) instrument. Statistical test with the Wilcoxon signed-rank test with $\alpha = 0,05$.

Results: There is a decrease in anxiety levels in children with leukemia after being given story-telling therapy. Based on data analysis by the Wilcoxon test, $p: 0.000$ means story-telling therapy is effective in reducing anxiety in children with leukemia at RSUP DR Wahidin Sudiro Husodo Hospital Makassar.

Conclusion: Storytelling therapy with audio-visual media is effective in reducing anxiety levels in children with leukemia.

Keywords: children, leukemia, anxiety, storytelling

Introduction

World statistics show that the number of people with leukemia in the world reaches around 500-600 million people. Every 1 million people in the world will be born 120 children who suffer from blood cancer. Data from the American Cancer Society (ACS), also shows that in the United States in 2012 there were cases of cancer in children about

12,060 new cases in the age range 0-14 years, and 1/3 of these cases were cases of death caused by leukemia.¹ Meanwhile, in 2021, it is estimated the rate of new cases of childhood leukemia was 4.9 per 100,000 children per year. The death rate was 0.6 per 100,000 children per year. These rates are age-adjusted and based on 2015–2019 cases and deaths. The increase in cancer rates has resulted in research on cancer in children becoming the focus of recent years.² Cancer diagnosis in children causes psychological stress due to several things including the effects of treatment (due to treatment), changes in social activities (school, playmates), ignorance regarding the condition and disease, and fear of death.³ In other words, cancer in children affects mental health and quality of life for both children and their families.⁴ In psychoneuro-immunology, it is said that if a person experiences anxiety caused by various kinds of stressors, in this case, children undergoing hospitalization, there will be an increase in cortisol indicators by the Hypothalamic Pituitary Adrenal (HPA) axis. Increased levels of cortisol in the body will inhibit the immune system, especially lymphocytes so it will inhibit the healing process.^{5,6} Therefore, intervention is needed to reduce anxiety due to hospitalization, so that children become cooperative and can support the healing process.¹

Playing is one of the effective ways to overcome the impact during the hospitalization process. Through play, children can express whatever they want, develop motor skills and abilities, improve cognitive abilities, increase self-confidence and develop their potential.⁷ Storytelling has several advantages compared to other therapies because storytelling can pleasure children, instinctively pre-school-age children have pleasure in listening to stories. In addition, storytelling therapy is very effective given to children who have limited energy to play.³ Storytelling can create an intimate atmosphere between the child and the storyteller and can be a channel for unstoppable emotions to reduce the child's level of anxiety. Fairy tales allow them to mentally map experiences and imagine in their heads. So that the child can understand that all the medical actions he receives have benefits for his healing process and also reduce the anxiety he experiences.⁸

DR Wahidin Sudiro Husodo General is one of the national referral hospitals for the treatment of blood cancer. In addition, this year DR Wahidin Sudiro Husodo General has also opened a special One Day Care service for children with leukemia who have to undergo routine examinations in a shorter time. Because of this background, researchers are interested in assessing the effectiveness of storytelling therapy with visual media on the anxiety level of children with leukemia. The results of this study can be used as a reference for treatment to reduce anxiety in children with leukemia.

Methods

Quantitative research method with quasi-experimental design, pre-test, and post-test without a control group. The anxiety instrument used was adopted from McDowell, namely the Hamilton Anxiety Rating Scale (HARS) measurement. Pearson product-moment correlation was used to evaluate the construct validity of each item to the total score. Based on the criteria, it can be concluded that all of the HAM-A items in the Indonesian version are declared "fair" or in this study called valid because Pearson correlation (r) ranged between 0.5 and 0.7.

Anxiety assessment was carried out before and after therapy. Therapy is given with a frequency of 1 time in 1 day for 3 times playing therapy. Analysis of the effect of storytelling play therapy on the level of anxiety in pre-school age children used the Wilcoxon signed-rank test with α level = 0.05. The population in this study were all children who were treated in the pediatric cancer treatment room as many as 41 children with samples in the study using a total sampling technique with inclusion criteria, namely children who were treated on the second day, aged 3-6 years, and based on parental consent. This research has received ethical approval from the Ethics Committee of the Faculty of Medicine, Hasanuddin University Makassar.

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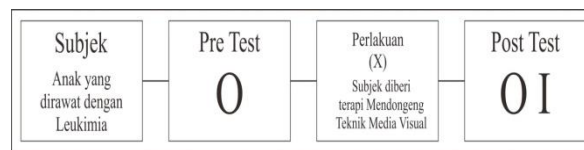


Figure 1. Research Method

Results

The results of the study regarding the frequency distribution of children treated with leukemia by sex and age will be presented below.

Table 1. Frequency Distribution of Children by Gender and Age (n = 41)

Gender	Frequency	Percentage
Man	21	51.2
Woman	20	48.8
Age (Year)	Frequency	Percentage
3	5	12.2
4	12	29.3
5	11	26.8
6	13	31.7
Total	41	100

Based on table 1, the results of respondents of the male sex are 21 children while women are 20 children. The results of the study on the frequency distribution of children treated with leukemia by age will be presented below. Besides, the table also shows that there are 5 children aged 3 years, 12 children aged 4 years, 11 children aged 5 years, and 13 children aged 6 years. The results of the study regarding the level of anxiety in children who were treated with leukemia before storytelling therapy will be presented below.

Table 2. Frequency Distribution of Anxiety Levels Before and After Storytelling Therapy

Anxiety Level	Before Therapy		After Therapy	
	Total	Percentage	Total	Percentage
Not Anxious	0	0	10	24.4
Light	8	19.5	24	58.5
Medium	18	43.9	7	17.1
Heavy	15	36.6	0	0
Total	41	100.0	41	100

Based on table 2, the results of the level of anxiety in children before storytelling therapy were 8 (19.5%) children with mild anxiety, 18 (43.9%) children with moderate anxiety levels, and 15 (36.6%) children with severe anxiety level. While the results of the level of anxiety in children after storytelling therapy are 10 (24.2%) children without anxiety, 24 (58.5%) children with mild anxiety, and 7 (17.1%) children with moderate anxiety. and none experienced severe anxiety. The results of research on the effectiveness of fairy tale therapy with audio-visual media on the anxiety level of children with leukemia will be presented below.

Table 3. The Effectiveness of Fairy Tale Therapy Against Anxiety Levels

Variable	Median (Minimum-Maximum)	Mean ± SD	P Value
Anxiety Pre-Test	6 (1-9)	5.78 ± 2.27	0.000
Anxiety Post-Test	1 (0-4)	1.88 ± 1.32	

Based on data analysis using the Wilcoxon test in table 6, the p-value of 0.000 was obtained with the interpretation of effective storytelling therapy to reduce anxiety levels in children with leukemia at DR Wahidin Sudiro Husodo General Hospital Makassar.

Discussion

During hospitalization, children are very susceptible to anxiety. This is evident from the research, it was found that 33 children experienced moderate and severe anxiety. In the condition of cancer, children cannot enjoy their world such as playing with friends, studying, and doing school activities. Corticosteroids in chemotherapy drugs can also have side effects on children's behavior,^{9,10} including anxiety, depression, mood changes, and behavior changes. Another effect of anxiety is that it can hinder the healing process. In psychoneuro-immunology, it is explained that anxiety can increase cortisol by the Hypothalamic Pituitary Adrenal (HPA) axis which will inhibit the immune system, especially lymphocytes will inhibit the healing process.^{5,6} After doing fairy tale therapy, it was found that the children's anxiety levels decreased, namely no more experiencing severe anxiety and 10 children not experiencing anxiety. Statistical tests showed that fairy tale therapy was effective in reducing anxiety levels in children with leukemia at DR Wahidin Sudiro Husodo General Hospital Makassar. Based on the theory by Ellis and Brewster (2014) fairy tales help children to identify problems and emotions and facilitate children to transform the conditions they face indirectly by diverting children's minds from the problems they are experiencing.^{9,11} In line with what Andriana (2011) explained that play activities that can be applied to toddler and preschool-age children are associative (interactive and cooperative) or parallel play activities, one of which is storytelling.¹²

The results of this study are also in line with several previous studies. In 2014, Aji Kiyat, et al stated the results of a study on preschool children who were temporarily treated in hospitals experienced a decrease in anxiety with fairy tale therapy.⁸ Meanwhile, in 2015, Rifatul researched children in orphanages with the results that fairy tales were effective in reducing stress levels and sleep disturbances in children.¹³ Another study in 2019 by Zohreh Sekhavatpour et al on children who had undergone surgery concluded that there was a decrease in anxiety levels in these children after reading fairy tales and being shown colored books.¹⁴ The results of research by Hatipoglu et al (2018) also prove that reading stories visually and auditory can reduce anxiety in children before anesthesia is performed.¹⁵ This study shows the results that children become more open and willing to communicate after being given play therapy. This behavior is shown when the nurse or storyteller invites to talk to the child, the child responds and is no longer silent. By being given storytelling play therapy, it will be able to reduce the level of anxiety 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 activities.

Conclusion

From this study, the results obtained regarding the description of the level of anxiety of children treated with leukemia at DR Wahidin Sudiro Husodo General Hospital

Makassar experiencing anxiety ranging from mild anxiety to severe anxiety. After doing fairy tale therapy with visual media techniques there is a decrease in anxiety levels with statistical tests, the results obtained are fairy tale therapy with visual media techniques is effective for reducing anxiety levels in children treated with leukemia in children treated with leukemia at DR Wahidin Sudiro Husodo General Hospital Makassar. fairy tale therapy with visual media techniques.

Conflict of Interest Declaration

The researcher declares that this research is free from conflicts of interest of individuals and organizations.

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