# The Effect Of Giving A Book Of Digital Fables In Banjar Language On The Anxiety Level Of Children With Cancer Undergoing Chemotherapy

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## Abstract

***Introduction:*** *Experience during chemotherapy is a factor in the incidence of anxiety in children. Playing is one way that can be used to reduce children's anxiety. The purpose of this study was to analyze the effect of giving a digital fable book in Banjar language on the anxiety level of children with cancer undergoing chemotherapy.*
***Methods:*** *This study uses a quasi-experimental design with a posttest control group design approach. The research sample was 60 children. Sampling was using consecutive sampling technique. The statistical test used an independent sample t-test with a significance level of 0.05. Measurement of anxiety using modified measurements of Zung Self-rating Anxiety Scale (ZSAS), Taylor Manifest Anxiety Scale (T-MAS) and Visual Facial Anxiety Scale (VFAS).*
***Results:*** *Based on the results of the study, it was found that there was an effect of giving a digital fable book in Banjar language on the anxiety level of children with cancer who underwent chemotherapy, especially in the intervention group. The significance p-value is 0.001 with a 95% confidence interval of 2.515 – 9.418. There is a difference in the mean score of anxiety levels between the control group and the intervention group of 5.967.*
***Conclusions:*** *This digital fable book in Banjar language can be applied in children's care rooms as a form of play therapy so that it can help children meet the needs of their developmental stages, namely playing and learning even during hospitalization.*

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## INTRODUCTION

Ulin Banjarmasin Regional General Hospital is the main referral hospital for pediatric hematology oncology in the province of South Kalimantan and from various regions or regions. Based on the results of medical records data at the Ulin Hospital Banjarmasin in 2021, it showed that there were 109 pediatric cancer patients being treated there. In 2022 from January to April, data obtained as many as 93 patients with an age range of 2 to 12 years were treated.

The primary treatment used to treat cancer in children is chemotherapy. The impact of chemotherapy that is felt to be the most disturbing is that children cannot play and feel anxious. Experience during chemotherapy is a factor in the incidence of anxiety in children. This is related to the thought of fear of accepting the pain that children receive while undergoing the chemotherapy process' children are required to take repeated treatments so that the coping patterns that are formed tend to be maladaptive. This is in line with Setiawan's statement (2015) which explains that chemotherapy can have negative impacts such as worry, anxiety, and fear due to the experience of injecting drugs that cause discomfort. Arslann, Basbakal and Kanter (2013) also stated that symptoms after chemotherapy are also one of the things that cause anxiety in children before undergoing chemotherapy. Most children when undergoing chemotherapy procedures through the intravenous route experienced anxiety because children were afraid of the pain caused by invasive procedures. Anxiety that continues to increase in children who are hospitalized can have a negative impact on their healing process, psychological health, behavioral, cognitive, emotional and academic development (Putri, Utami and Juniartha, 2020).

Playing is one way that can be used to reduce anxiety in children undergoing treatment and can also distract children from unpleasant situations (Wong et al., 2009); fable book storytelling is a form of play therapy and non-pharmacological therapy for cancer children undergoing chemotherapy. The reason the researcher chose to intervene in the provision of digital fables is because it does not require a large cost in its use and the media used can be easily accessed by children both online and offline. Kanchan, Chandra and Aarti (2015) revealed that, with storytelling activities, children who experience anxiety show changes in the feelings they experience. These changes from being lonely, worried, sad, tired, afraid, angry and crying turned to being happy and relaxed after being given storytelling activities. Digital storytelling can be a medium of communication between children and other people, including nurses or other health workers in hospitals (Anggraeni and Widiyanti, 2019).

Based on the results of observations and interviews that researchers conducted at the Ulin Hospital Banjarmasin both to nurses in the room and children with cancer undergoing chemotherapy, so far there has been no animated fairy tale book in digital form that can speak and can be accessed through electronic devices, specifically in Banjar language, which are available; there are only manual illustrated fairy tale books in Indonesian language neatly arranged in the play therapy room. The advantages of digital animated fairy tales that the researchers and the team created are that

these digital animated tales can be read online or offline via mobile phones or other electronic equipment, then these digital animated tales can make a sound when clicked for children who still can't read, With this digital fable book, you can still listen and understand the contents of the story. Researchers chose to use the Banjarese language because the majority of the children treated at the Ulin Hospital Banjarmasin use the Banjarese language in communicating and the lack of story books in regional languages is also a strong reason for researchers to choose to use regional languages in making this digital animated fairy tale.

Based on the explanation above, the purpose of this study was to analyze the effect of giving a digital fable book in Banjar language on the anxiety level of children with cancer undergoing chemotherapy.

## METHODS

*Study design*

This study used a quasi-experimental design with a posttest control group design research approach.

*Population and sampling*

The population in this study, namely children with cancer who underwent chemotherapy at the Ulin Hospital Banjarmasin in the Oncology room, were 93 children based on data in 2021 from January to April. Calculation of sample size used two independent population mean tests. Based on the calculation using the formula above, it was found that the sample size was 60 children which were divided into two groups: 30 children in the intervention group and 30 children in the control group. Sampling technique was consecutive sampling. The inclusion and exclusion criteria are: Inclusion criteria: children aged 2-12 years (who have obtained parental or guardian consent through a consent form), the category of anxiety is mild to moderate anxiety, the child is admitted on days 1-3 in the hospital and is undergoing chemotherapy treatment therapy, not in critical condition or emergency and exclusion criteria: children go home before observation and assessment (posttest).

*Instruments*

The questionnaire in this study was used to see the level of anxiety of children aged 2-12 years who were undergoing chemotherapy procedures after being given the intervention of giving a digital fable book to both the intervention group and the control group. The instrument consists of 28 questions filled in by the researcher or research assistant, with the answers “yes” and "no.” The researcher will check the answer "yes" if it is in accordance with the respondent's condition and will answer "no" if it is not in accordance with the respondent's condition. Question items consist of 22 positive questions and six negative questions. A score of 0-14 indicates mild anxiety and a score of 15-28 moderate anxiety. The instrument is based on the modified Zung Self-rating Anxiety Scale (ZSAS) and Taylor Manifest Anxiety Scale (T-MAS) measurements. For children who later have difficulty expressing their anxious feelings, the Visual Facial Anxiety Scale (VFAS) consists of six facial expressions (Cao et al., 2017). This instrument will later be made on one sheet of paper with categories of anxiety level, namely: not anxious, mild, mild-moderate, moderate, moderate-high, and high which are listed on a separate sheet. The provisions for using VFAS are as follows: 1) For toddler and preschool age respondents who have difficulty expressing their anxious

feelings, the respondent is asked to point to an existing image according to what he or she is feeling at that time, 2) Face images will be arranged randomly to avoid bias in collecting data related to the level of anxiety of respondents.

*Data analysis*

Processing and data analysis in this study were assisted by using the IBM version 25. The statistical test used an independent sample t-test with a significance level of < 0.05.

*Ethical clearance*

This research was carried out with an ethical feasibility test at Ulin Hospital Banjarmasin Number: 89/VII-Reg Research/RSUDU/22 with ethically feasible results.

## RESULTS

Based on Table 1 above it shows that the age range of the majority in this study was at the age of 4-6 years by 23 (38.3%) respondents, the most gender was male by 36 (60%) respondents and for the most common type of cancer experienced respondents were Acute Lymphoblastic Leukemia with 32 (53.3%) respondents and the last order was pancreatic adenocarcinoma cancer with 1 (1.7%) respondent.

Table 1. Characteristics of respondents

| Characteristics | n | % |
|---|---|---|
| **Age** | | |
| 1-3 years old | 18 | 30 |
| 4-6 years old | 23 | 38.3 |
| 7-12 years old | 19 | 31.7 |
| **Gender** | | |
| Male | 36 | 60 |
| Female | 24 | 40 |
| **Type of cancer** | | |
| Acute Lymphoblastic | 32 | 53.3 |
| Leukemia | 10 | 16.7 |
| Acute Myeloid Leukemia | 8 | 13.3 |
| Nefroblastoma | 3 | 5.0 |
| Non-Hodgkin's Lymphoma | 6 | 10 |
| Retinoblastoma | 1 | 1.7 |
| Pancreatic Adenocarcinoma | | |

Table 2. The difference in mean anxiety scores in the intervention group and the control group

| | Group | N | Mean | SD | Std. Error Mean |
|---|---|---|---|---|---|
| Anxiety level | Intervention | 30 | 14.43 | 7.338 | 1.340 |
| | Control | 30 | 20.40 | 5.946 | 1.086 |

Based on Table 2 above, it shows the average score for the anxiety level of children undergoing chemotherapy after being given a digital fable book in Banjarese language. In the intervention group, the average level of anxiety was 14.43 while for the control group it was 20.40. Thus, statistically descriptive, it can be concluded that there is a difference in the average score of anxiety levels between the control group and the intervention group, where the anxiety level of children who are given a digital fable book in Banjarese language is lower than the group of children who are not given a digital fable book in Banjarese language.

Based on Table 3 above, it shows a significance value of 0.001 < 0.05 so it can be concluded that the digital fable book in Banjar language affects the anxiety level of children with cancer undergoing chemotherapy. In regard to mean difference it is found that the difference in the mean score between the intervention group and the control group is 5.967 with a 95% confidence interval between 2.515 – 9.418.

## DISCUSSION

Experience during chemotherapy is a factor in the occurrence of anxiety.

Table 3. The effect of giving a digital fable book in Banjar language on the anxiety level of children with cancer undergoing chemotherapy

| Key. | Levene's test | Sample t-test | | 95% CI | |
|---|---|---|---|---|---|
| | Sig. | Sig. (2-tailed) | Mean difference | Lower | Upper |
| The effect of giving a digital fable book in Banjar language | 0.063 | 0.001 | 5.967 | 2.515 | 9.418 |

This is related to the thought of fear of accepting the pain that children receive while undergoing the chemotherapy process; children are required to take repeated treatments so that the coping patterns that are formed tend to be maladaptive. The results of a study by Putri, Utami and Juniartha (2020) stated that most children when undergoing chemotherapy procedures through the intravenous route experienced anxiety because children were afraid of the pain caused by invasive procedures.

Based on the results of the researcher's analysis, the factors that influence the respondents' anxiety in this study are age and previous experience of being hospitalized. Regarding age factor, children who are in the age range of 1-3 years (toddler) and 4-6 years old (pre-school) have a higher level of anxiety when hospitalized and during chemotherapy procedures even though they have had previous hospitalization experience. This is different from children aged 7-12 years (school age) where at this age they are more able to adapt to the situation and already have effective coping skills so that when they have to be hospitalized and undergo chemotherapy procedures, children experience little anxiety. School-age children who have had previous experience of being treated in a hospital have also been able to adapt to the hospital environment so that at this age stage they consider the hospital as their second home and there is no anxiety when they have to be treated. This is in line with the statement of Hockenberry and Wilson (2015) that the anxiety reactions that arise in children are broadly influenced by developmental age, previous experience with illness, separation or hospitalization, coping skills possessed, severity of diagnosis and existing support systems.

One way that can be used to help children minimize anxiety when hospitalized or when medical procedures are carried out is through therapeutic games. According to Hockenberry and Wilson (2015), therapeutic play is defined as a diversional that helps children divert attention to their favorite activities. Storytelling activities are a type of play; storytelling therapy can be applied to the age range of toddler, preschool to school age because it is able to develop children's language skills, improve children's imagination and communication skills. This storytelling method is a non-pharmacological, easy, inexpensive method and is an activity that children like (Irawan, 2020).

The results showed that there was an effect of giving a digital fable book in Banjar language on the anxiety level of children with cancer undergoing chemotherapy. In the intervention group, the mean score of children's anxiety was

lower than the control group. Digital fable books help children to distract from the anxiety they feel. The digital fable book created by the research team contains pictures of brightly colored animals which make children interested in seeing and reading them. In addition, this digital fable book also contains audio or sound features that can be heard by children so that it really helps children understand the content of the story being told. The storyline created by the researchers and the team in this digital fable book raises local culture, namely the use of animals such as the Proboscis monkey which is the mascot of the South Kalimantan area and contains stories that raise themes related to friendship, struggle, motivation which are very related to the condition of children with cancer who are struggling to improve their quality of life. The language used to convey fairy tales was also chosen, namely the regional language, Banjarese, with the aim that children easily understand the content and meaning of the story. Children can imagine and are able to reframe quickly

With storytelling activities, children who experience anxiety show changes in the feelings they experience. These changes from being lonely, worried, sad, tired, afraid, angry and crying turned to being happy and relaxed after being given storytelling activities (Kanchan, Chandra and Aarti, 2015). Through storytelling or reading fairy tales, the nerve nodes in children stimulate neurotransmitters and secrete endorphins, causing feelings of joy, cheerfulness, and excitement in children. This is in line with the results of research from Widhiastari (2021) which states that fairy tales can affect the senses of hearing and sight, which will then stimulate happy impulses to the brain and be able to influence children's behavior, making children relax and calm so as to reduce anxiety levels.

The results of the evaluation that the researchers and the team did to the children and their parents after the children were given a digital fable fairy tale book, showed the parents said that they increased their children's knowledge regarding the names of animals that they did not know, the children became enthusiastic about seeing the pictures in the digital fable fairy tale books; the children also learn to listen to stories from audio that have been made so that they can increase children's vocabulary, children's communication is better, warm and trusting relationships are built with the research team and other health workers, through various questions asked by children related to stories in digital fable fairy tales. Respondents in this study were children starting from the toddler, pre-school and school age stages which at this stage of development are very good to be stimulated, especially in the language sector. The existence of this digital fable book is expected to help increase children's vocabulary so that, even though they are under treatment, children with cancer who undergo chemotherapy treatment can still reach an optimal level of development. Margherita et al. (2018) revealed that through fairy tales helping children tell various experiences of illness in different ways, they can express their pain symbolically. Fairy tale books are one of the most useful media to help improve interpersonal communication between children in groups and also between children and health workers.

## CONCLUSIONS

In light of these results, pediatric nurses are advised to use the digital fable book in Banjar language therapy as an

option for providing a traumatic care intervention, especially as a means of distracting the anxiety response experienced by children during undergoing chemotherapy. As long as children read digital fables, parents need to accompany their children because the presence of parents will provide psychological comfort for children. In addition, further research is recommended to provide a deeper analysis on the effect of this therapy on child development, especially in the language sector. This therapy can also be applied to the toddler and preschool range so that it can help children learn to improve language and vocabulary skills.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest in this study.

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