

## Picture Coloring Play Therapy Affects Pre-School Children's Anxiety Levels During Hospitalization in St. Theresia Room Gunung Maria Tomohon Hospital

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### ARTICLE INFO

*Keywords:* Anxiety Levels, Hospitalization, Playing Coloring Picture Therapy, Preschoolers.

*Received :* 14, July

*Revised :* 28, July

*Accepted:* 29, August

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### ABSTRACT

Hospitalization can be a distressing experience for children, leading to anxiety due to unfamiliar environments, treatments, and procedures. This study aimed to analyze the effect of coloring picture play therapy on anxiety levels in hospitalized preschool children at St. Theresia Room, Gunung Maria Tomohon Hospital. Using a pre-experimental pre-post test design, 15 preschool children were sampled through non-probability sampling. The Wilcoxon test and the Zung-Self Rating Anxiety Scale (ZSAS) were used for analysis. Results showed a significant effect of coloring picture play therapy on reducing anxiety, with a p-value of  $0.001 < \alpha = 0.05$ . The study concludes that coloring picture play therapy effectively reduces anxiety in hospitalized preschool children.

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## **INTRODUCTION**

A child is an individual who undergoes a period of change in development, starting as a baby and ending as a teenager. All societies should prioritize child development because childhood determines the future of a country (Tubalawony, 2021). When a child is undergoing treatment in a hospital (hospitalization) is a frightening experience for them because the amount of stress they are experiencing can make them feel insecure (Futri & Risdiana, 2023). Hospitalization is the condition in which a person is hospitalized for treatment or treatment to overcome or alleviate his or her illness (Novianty & Shahroh, 2020).

Children who are sick and need to be hospitalized will experience difficult times because they are unable to do the habits of the environment and strangers, care and various procedures undertaken by the child are a major source of stress, disappointment and anxiety, especially for the child who is first in the hospital (Hartini & Winarsih, 2019). When a child is treated in a hospital, it is usually forbidden to move much and to rest much. This will disappoint the child and increase the anxiety of the child (Boyoh & Magdalena, 2018).

The child's reaction to hospitalization is generally sadness, fear, and guilt in the face of something that has never been experienced before, insecurity, discomfort, the feeling of losing something common in nature and something that is felt painful (Wong et al., 2016). The impact of hospitalization, if not addressed immediately, will affect psychosocial development, especially in children (Manalu et al., 2019).

In the United States, it is estimated that more than five million children are suffering from stressful treatment from surgical procedures, more than 50% of which are anxiety and stress. In Indonesia, according to data from the 2019 Indonesian Central Statistical Agency, the number of preschool-age children reached 9.6 million out of 265 million inhabitants, with an estimated 35 per 100 children being hospitalized and 45 per cent of them experiencing anxiety. According to Dr. Soetomo Surabaya about the behavior of sick children shows that 70% of patients initially show negative behaviors (aggressive and depressive) by ignoring the type of diagnosis (Ersyad Ithok et al., 2022).

From the preliminary study carried out at Gunung Maria Tomohon Hospital, the number of child patients from December 2022 to February 2023 was 201 children treated, while preschoolers (3-6) years of age treated 28 children. (Rekam Medik Rumah Sakit Gunung Maria Tomohon, 2023). Based on the results of the observation at the time of initial data collection, it was found that the average child receiving treatment experienced the impact of hospitalization with reactions of crying, fear, anxiety, and non-cooperative with health workers.

The child will experience an increase in cortisol, which inhibits the formation of antibodies, lowers white blood cells and immunity. This suppression of the immune system seems to result in the inhibition of the healing process, so it takes a long time of treatment and will even accelerate the occurrence of complications during pre-school (3-6) years the child's reaction to hospitalization is perceived by the child as a punishment, so there are feelings

of shame, fear so that the emergence of reactions of anger, rebellion, and not want to be called to cooperate with the nurse (Aryani & Zaly, 2021). Play is an activity in which children can perform or practice skills, give expression to thoughts, become creative, prepare themselves for adult roles and behaviors (Wong et al., 2016).

Previous research finds that colorful play therapy reduces the level of anxiety of preschool children who are hospitalized (Rosita et al., 2020). Coloring therapy can reduce the level of anxiety of preschool children who are hospitalized. Coloring activities in preschools children can reduce their levels, because by coloring children can express their feelings through colors and images.

Similarly, a previous study by other researchers in their literature study stated that color therapy affects the convenience of hospitalization in preschool children (Revine Siahaan & Juniah, 2022). Research from Syarli et al., (2022) which has made the therapeutic model play in reducing the anxiety caused by hospitalization in a child with typhoid in a corporate corporate hospital. (RSBP). The study examined the impact of playing therapy on preschool children during hospitalization in low levels of anxiety. In addition, the study explores the scientific validity of the use of imaging therapeutic interventions to measure the level of anxiety of preschool children during hospitalization and offers methodological insights for related studies. Picture play therapy has proven to be an effective intervention in lowering the level of anxiety during hospitalization. The effectiveness of developing imaging therapy can be used as a model as well as a useful guide to reducing pre-school child anxiety levels during hospitalization.

## **THEORETICAL REVIEW**

### ***Anxiety in Preschool Children During Hospitalization***

Hospitalization is often a traumatic experience for children, especially those in preschool age, as they encounter an unfamiliar environment, medical procedures, and strangers. Anxiety is a common psychological response in such situations, characterized by feelings of fear, uncertainty, and helplessness. For preschool children, who are still developing coping mechanisms and emotional regulation skills, hospitalization can significantly disrupt their sense of security and well-being. According to Erikson's stages of psychosocial development, preschool children are in the "initiative vs. guilt" stage, where they are learning to assert themselves and gain independence. Hospitalization can hinder this developmental stage by imposing restrictions on their freedom and introducing a sense of vulnerability, leading to heightened anxiety.

### ***Play Therapy as an Intervention for Anxiety***

Play therapy is a widely recognized therapeutic approach used to address emotional and psychological issues in children. It provides a safe space for children to express their feelings, process their experiences, and develop coping strategies. Picture coloring, as a form of play therapy, is particularly effective for preschool children because it aligns with their cognitive and motor

development stages. Coloring activities engage children in a familiar and enjoyable task, allowing them to focus on the activity rather than the stressors of hospitalization. This form of therapy can help reduce anxiety by providing a sense of control, improving mood, and encouraging self-expression.

### ***The Mechanism of Coloring Therapy in Reducing Anxiety***

Coloring therapy works by engaging the child in a repetitive and calming activity, which can help lower anxiety levels. The act of coloring requires concentration and fine motor skills, which can divert attention away from anxiety-inducing thoughts. Additionally, the use of colors allows children to express emotions that they may not be able to verbalize, providing an outlet for stress. Research suggests that the structured and predictable nature of coloring can create a sense of order and safety, which is particularly beneficial for children experiencing the chaos and unpredictability of hospitalization.

### ***Empirical Evidence Supporting Coloring Therapy***

Several studies have shown the effectiveness of coloring therapy in reducing anxiety in children. For instance, a study by Carsley, Heath, and Fajnerova (2015) found that structured coloring activities significantly reduced anxiety levels in children. Another study by van der Venet and Serice (2012) demonstrated that coloring mandalas, a specific form of structured coloring, was particularly effective in reducing anxiety compared to free-form coloring. These findings support the use of coloring as a therapeutic intervention for anxiety in various settings, including hospitals.

### ***Application in the Hospital Setting***

In the context of hospitalization, where children are exposed to multiple stressors, coloring play therapy offers a non-invasive and accessible intervention that can be easily implemented. The therapy can be integrated into the hospital routine, providing children with a sense of normalcy and continuity in an otherwise disruptive environment. The effectiveness of this intervention in reducing anxiety has implications for improving overall patient care and outcomes, as lower anxiety levels are associated with better cooperation with medical procedures, faster recovery, and a more positive hospital experience.

The theoretical foundation of picture coloring play therapy is rooted in the understanding of child development, anxiety, and the therapeutic role of play. By providing a structured, creative outlet, coloring therapy helps preschool children manage the emotional challenges of hospitalization. The evidence supports its effectiveness in reducing anxiety, making it a valuable tool in pediatric healthcare settings. As such, integrating picture coloring play therapy into hospital care practices can significantly enhance the emotional well-being of hospitalized children.

## METHODOLOGY

### *General Overview of Pre-School Emergency Data Methods.*

One of the assessment methodologies that is commonly used in the evaluation of the effectiveness of imaging therapy is the pre-experimental method with a sample of 15 preschool children. The test used was the Wilcoxon test because the data was abnormal ( $\text{Sig. } 0,040 < \alpha 0,05$ ) using the normality test of the data, the Shapiro Wilk test, because the information was less than 50 respondents. Pre and post tests are techniques for assessing the level of pre-school children's anxiety during hospitalization with the provision of imaging therapeutic interventions. The basic idea is to obtain differential data on the level of anxiety before and after a therapeutic intervention in preschool children during hospitalization and as a basis for making one of the clinical decisions in lowering the level. The main advantage of this method is to identify differences in pre-school anxiety levels. This technique is commonly used in some pre-experimental studies as a tool to see the difference in anxiety levels before and after intervention. This method is capable of providing comprehensive information about data differences before and after intervention. The instruments used are the Zung-Self Rating Anxiety Scale (ZSAS) as well as the Operational Standard of Coloring Play Therapy Procedures in Children.

This research focuses on the following important aspects:

1. Pre-school child emergency data prior to intervention. The study offers a new approach to measuring pre-school children's levels of anxiety during hospitalization using paint-coloured play therapy interventions.
2. Pre-school emergency data after intervention. After giving the intervention therapy play picture, give an overview of the effectiveness of this intervention in reducing the level of pre-school child anxiety during hospitalization.
3. Evaluation of Changes in Emergency Level After Intervention. By statistical analysis, playing therapy coloring images in preschool children was able to lower the level of anxiety during hospitalization. It provides stronger support for clinical management decision-making on the effective implementation of pre-school anxiety.
4. Practical Applications in Clinical Contexts in Children's Hospital Care Rooms. The study also emphasizes the importance of giving imaging therapy to preschool children in every hospital room in Indonesia. It makes a practical contribution to improving childcare services.

Through these innovations, the research not only enriches literature, but also offers modeling that can be applied in developing preschool child anxiety enforcement more effectively.

## RESULTS

The aim of this study was to analyze the techniques used to evaluate the difference in the level of anxiety before and after a play therapy intervention coloring images in preschool children when hospitalized. Here are the main findings of this study:

### *Respondent Characteristics*

Table 1. Frequency Distribution Of Respondents By Age And Gender

Age	Frequency	(%)
3 Years Old	5	33,3
4 Years Old	3	20,0
5 Years Old	7	46,7
Gender		
Male	7	46,7
Female	8	53,3
Total	15	100,0

Based on table 1 it is found that the characteristics of respondents based on the age of the child are mostly respondents aged 5 years of age, 7 respondents (46.7%). The most female respondents were 8 (53.3%) and the least male were 7 (46.7%).

### Univariat Analysis

Table 2. Children's level of anxiety prior to giving play therapy to pre-school children during hospitalization.

Kecemasan Pre-test	n	%
Kecemasan Ringan	1	6,7
Kecemasan Sedang	13	86,6
Kecemasan Berat	1	6,7
Kecemasan Post-test		
Kecemasan Ringan	14	93,3
Kecemasan Sedang	1	6,7
Kecemasan Berat	0	0

In table 2 it is explained that the child's level of anxiety prior to giving painting therapy, is generally at a moderate level of 13 respondents (86.6%), the level of mild and severe anxieties of 1 respondent (6.7%), respectively. The child's level of anxiety after receiving paint-play therapy was generally at a mild level of 14 respondents (93.3%), a moderate level of anguish of only 1 respondent (6.7%) and a level of severe anxieties absent.

### Bivariat Analysis

Table 3. Differences in child anxiety before and after playing therapy in preschool children during hospitalization

Anxiety Variable	Mean	p-value
Pre-test	3,446	0,001
Post-test	3,446	

Based on table 4 known positive rank prior to therapy is as many as 0 children, while for negative rank of 15 children or with an average of 3,446 which means the child who has anxiety due to hospitalization is only 15 children with the statistical test results with Wilcoxon test showing p-value of 0,001.

Then for positive rank after treatment there were 15 childrens with an average of 3,446 while for negative rank after therapy there were 0 children, with a p-value of 0,001 or less than the value of 0,05. It can be concluded that there is a significant decrease in anxiety in the child after being undergoing painting therapy. It means there is an influence of the therapy of painting on the level of anxieties in pre-school children during hospitalization at RSU. Gunung Maria Tomohon, or in the decision  $H_a$  is accepted.

## DISCUSSION

This study examines pre-experimental methods, where the intervention of play therapy coloring images as an intervention in reducing the level of anxiety of preschool children hospitalized. The results of the study show that giving play therapy decreases the level of anxiety in pre-school children during hospitalization at Gunung Maria Tomohon Hospital.

The results of this study are in line with research Hendrita & Bayuningsih, (2023) where the results of the research found that there was an effect between coloring pictures intervention and reducing anxiety levels in preschool-aged children treated at Rawalumbu Hospital (p-value = 0.000;  $\alpha$  = 0.01). There is evidence that play therapy by coloring pictures affects the anxiety levels of hospitalized preschool children. Sari et al., (2023) In his three-day study, two children aged between 3 and 6 years were observed for anxiety. Observations were made before and after coloring play therapy was given. According to this research, coloring play therapy can help reduce the anxiety level of children who are hospitalized.

Descriptive case study results from Dewanti & Maryatun (2023) showed a decrease in anxiety due to hospitalization. Coloring play therapy is carried out once for thirty minutes. This research found that playing coloring can be a way to reduce the anxiety experienced by preschool children due to staying in hospital. The results of research on 52 children in RW 03, Kedungdoro Village, Tegalsari District, Surabaya, show that there is a relationship between coloring play therapy and the stress levels of school-aged children who practice physical distancing. The conclusion of this research is that doing coloring play therapy every day for 20-30 minutes during free time will reduce the stress level of school-aged children who practice physical distancing (Permatasari et al., 2021).

According to Deswita & Nursiam, (2020) In theory, both children and parents consider hospitalization as an emergency situation. Each child has different reactions to the stress that arises in the hospital. Children can experience stress because of the illness they experience and changes that occur in their environment. Children's reactions to anxiety during hospitalization vary depending on their age. This book discusses anxiety in school-aged children, covering the age range of 6 to 12 years. According to theory Syahirah &

Permatasari (2019), Hospitals are a new place for children because scary medical procedures can cause trauma that can interfere with a child's growth, so it is hoped that play therapy can make children happier and reduce the impact of hospitalization. Apart from that, it can help children learn to overcome problems, express themselves, try new things, and adapt to stressful situations.

Study from Rahmanita et al., (2020) stated that coloring play therapy is one way to reduce the anxiety level of preschool-aged children in the Edelweis room at RSUD dr. M Yunus Bengkulu. This intervention is intended to help reduce children's anxiety, especially preschool-aged children who are staying in hospital. Likewise the research results Hasibuan (2019) showed that the anxiety level of preschool children at PAUD Mawar Batunadua Padangsidimpuan was influenced by coloring picture play therapy. In conclusion, the respondent's anxiety level before coloring picture play therapy was moderate, but the respondent's anxiety level became light after coloring picture play therapy. Thus, there is an effect of coloring picture play therapy on the anxiety level of preschool children.

The study from Setiawati & Sundari (2019) using a quasi-experimental method with a one group design before and after the test. The number of samples taken was 30 subjects, and non-probability sampling techniques were used. The research results showed that anxiety before play therapy at Ambarawa Hospital had an average value of 20.77, a minimum value of 5, a maximum value of 34, and a standard deviation of 8.310. In contrast, anxiety after play therapy has an average value of 14.87, a minimum value of 7, a maximum value of 24, and a standard deviation of 5.290. The results of this research are that there is an effect of play therapy on reducing children's anxiety as a result of hospitalization at Ambarawa Regional Hospital.

Agree with the research results Khalimi (2023) where coloring therapy plays a role in reducing the anxiety of preschool children who are hospitalized in the Mina Room at Siti Khodijah Hospital, Pekalongan. Research using the Wilcoxon test shows that there is an effect of coloring picture therapy on pre-hospital children's anxiety levels.

Study of Sudirman et al., (2023) using Pre-Experimental research methods on 48 preschool age children who were treated in the children's care room at the Tani and Fishermen Hospital of Boalemo using non-probability sampling techniques, showed that the average level of anxiety decreased or decreased after the intervention. Reducing anxiety levels from the effects of hospitalization at preschool age is influenced by coloring play therapy.

Results of pre-experimental study with one group pre-post test design. Purposive sampling consisted of 30 children. The data collection method was a questionnaire, showing that the child's anxiety level before coloring picture therapy indicated a moderate level of anxiety and severe anxiety. After coloring therapy, the children showed moderate and mild levels of anxiety. Preschoolers' anxiety levels are significantly reduced by coloring picture play therapy. This demonstrates that coloring image play therapy has a major impact on preschool-aged children's anxiety levels (Gerungan & Walelang, 2020).



Munir (2023) in his research used a quantitative approach with a one group pretest posttest pre-experimental design. Methods include paired T tests and one-way anova. with a total of 84 respondents, 28 from each group. The results show that painting and coloring therapy reduces the anxiety level of children treated at RSUD dr. H. Koesnadi Bondowoso.

Colin et al., (2023).

In contrast to Ginanjar et al., (2023) who used scrapbook intervention media, namely by decorating books with pictures or photos, it was effective in reducing anxiety in preschool children when they were hospitalized. Likewise, Colin et al., (2023) used the Pop It intervention as part of a distraction technique. Children write each letter on each bubble, then press the bubbles to form the desired word. By playing Pop It, preschool children will indirectly learn to recognize letters and read.

Likewise with the study of Martasih et al., (2023) where the research did not use play therapy to color pictures, but arranging blocks as part of the intervention to reduce anxiety in preschool children during hospitalization. Before play therapy arranging blocks, respondents experienced severe anxiety, but respondents did not experience anxiety at all after arranging blocks. The results of the analysis show that there is an effect of block-building play therapy on the anxiety level of preschool children treated in the Galilee 3 Children's Room at Bethesda Hospital.

There are also those who use colored sand media as in study by Bintang et al., (2023). The intervention implemented for 3 days showed that there was a decrease in pre-school children's anxiety when they were hospitalized. This therapy has been proven to reduce anxiety during hospitalization. This is different with study of Simamora et al., (2022) which used candles and music. Candle and music play therapy is a type of play skills game that is suitable for preschool age children and can provide children with the opportunity to use their own ideas. The goal is to divert children's attention to their game so that children are not too focused on the situation.

Based on the results and strengthening of previous research, the researchers assume that to reduce the level of stress and anxiety in pre-school age children, it is not only through coloring picture play therapy, but there are also other interventions such as playing music, colored sand, arranging blocks, Pop It and so on. Researchers assume that to reduce the level of anxiety in hospitalized preschool children, this is through distraction techniques or shifting focus to situations that trigger anxiety.

## CONCLUSIONS AND RECOMMENDATIONS

In conclusion, there was a decrease in anxiety levels in preschool children who were hospitalized using coloring picture play therapy intervention. Although this approach has advantages and disadvantages, this therapy is not reliable enough to measure the extent of overcoming anxiety in preschool children when hospitalized. Therefore, this research suggests new approaches such as candle therapy, colored sand, music therapy, building blocks.

For further research, several recommendations that can be given are as follows:

1. Data and Method Development: Carrying out further research to develop the results of this research. Likewise, it is an appropriate method and it is more advisable to use modeling methods so that the management of anxiety in preschool children while being treated in hospital is more effective.
2. Improved Index Method: Reducing subjectivity in weighting and selecting indicators in the index method by developing a more objective and data-based approach. The use of more sophisticated analytical techniques can help increase the accuracy and validity of measurement results.
3. Carry out additional research to adapt modeling on play therapy for preschool children to reduce anxiety. This includes considering unique factors that influence the development of pediatric nursing in Indonesia, such as children's music therapy, colored sand therapy, candles, Pop It and so on.
4. Unidirectional research: Conducting unidirectional studies to monitor the development of preschool children's care while hospitalized. This provides deeper insight into the factors that contribute to reducing preschoolers' anxiety when hospitalized.
5. Collaboration between Researchers and Institutions: Encourage collaboration between researchers, academic institutions, to collect richer data and share best practices in measuring and developing pediatric nursing.

With these recommendations, it is hoped that further research can overcome existing limitations and make a more significant contribution to reducing the anxiety level of hospitalized preschool children.

## **FURTHER STUDY**

Several limitations in this research need to be considered. First, the research team had to adapt to preschool children because preschool children were difficult to approach because they were experiencing anxiety due to being hospitalized. Second, more samples are needed so that the validity of this research is maintained.

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