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IMPLEMENTATION OF COLORING PLAY THERAPY TO REDUCE HOSPITALIZATION ANXIETY IN PRESCHOOL CHILDREN

Lelya Puput Novita Sari, Irdawati*
Universitas Muhammadiyah Surakarta, Jl. A. Yani, Pabelan, Kartasura, Sukoharjo, Central Java 57169, Indonesia
*Irdawati@ums.ac.id

ABSTRACT
Hospitalization can cause anxiety in preschool children due to unfamiliar environments, medical procedures, and separation from family. Coloring play therapy is a simple non-pharmacological intervention that may reduce hospitalization anxiety. To implement coloring play therapy to reduce hospitalization anxiety among preschool children aged 3–5 years in a pediatric inpatient ward. This case study used an Evidence-Based Nursing Practice (EBNP) approach involving 10 hospitalized preschool children from June 9–13, 2026. Anxiety was assessed before and after intervention using the Face Anxiety Scale (FAS). Data were analyzed descriptively based on changes in FAS scores and behavioral observations. Before intervention, 2 children (20%) had severe anxiety, 7 (70%) moderate anxiety, and 1 (10%) mild anxiety. After coloring therapy, 9 children (90%) had mild anxiety and 1 (10%) had no anxiety. Children also appeared calmer, more cooperative, willing to interact with nurses, and more comfortable. Coloring play therapy can reduce hospitalization anxiety and is a simple, safe, and effective non-pharmacological nursing intervention supporting atraumatic car.

Keywords: anxiety; coloring; hospitalization; play therapy; preschool children

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INTRODUCTION

Hospitalization is a condition in which children have to receive care in a hospital due to an illness or health problem. This condition is not only related to the process of physical treatment and recovery but can also have a considerable psychological impact, particularly on preschool-aged children. Children aged 3–5 years are still at a developmental stage characterized by limitations in understanding illness, the reasons for hospitalization, and the various medical procedures performed on them (Fitriani et al., 2023). When hospitalized, children are exposed to an environment that differs from their everyday surroundings, such as unfamiliar rooms, medical equipment, healthcare-related sounds, unfamiliar healthcare professionals, as well as various examination and treatment procedures. These changes may cause children to feel a loss of the sense of safety and comfort they normally experience in their home and family environment (Sari et al., 2023).

For preschool-aged children, hospitalization is often a stressful experience because they have to adapt to new circumstances within a relatively short period. Their ability to understand the reasons for hospitalization remains limited, and therefore, various procedures performed by healthcare professionals may be perceived as threatening. Children may not yet be able to understand that procedures such as physical examinations, medication administration, intravenous infusion, blood sampling, or other medical procedures are performed to support the healing process. Consequently, children are more likely to exhibit emotional reactions such as fear, anxiety, crying, refusal of procedures, and unwillingness to be separated from their parents. This condition indicates that

hospitalization affects not only children's physical condition but may also affect their psychological well-being, thereby requiring special attention from healthcare professionals (Herawati & Mariyani, 2023).

The anxiety experienced by children during hospitalization can affect the overall care process. Children who feel fearful and anxious tend to become less cooperative during examinations or nursing procedures. Some children may cry, refuse to be touched, attempt to move away from healthcare professionals, or repeatedly ask to be accompanied by their parents. These conditions can make the implementation of nursing procedures more difficult and require more time. In addition, untreated anxiety can increase children's discomfort during hospitalization and hinder their adaptation to the hospital environment. Therefore, nurses need to implement an approach that focuses not only on disease recovery but also on addressing children's emotional and psychological needs through interventions appropriate to their developmental stage. This approach is important to help children feel safer and more comfortable and to support their adaptation during hospitalization (Mesa et al., 2024).

Anxiety resulting from hospitalization can manifest in various forms according to children's developmental characteristics and their ability to express their feelings. Some children exhibit behaviors such as persistent crying, difficulty being soothed, refusal to undergo examinations, hiding behind their parents, or becoming quieter than usual. Other children may experience behavioral changes, such as becoming easily irritable, fussy, having difficulty sleeping, or refusing to eat. These reactions are normal responses because children feel a loss of control over the situation they are facing. An unfamiliar environment, painful medical procedures, and the possibility of being separated from their usual surroundings and daily routines can intensify the fear experienced by children. Under certain circumstances, children may also perceive healthcare professionals as strangers who come to perform painful procedures, resulting in resistance to the care process.

If anxiety during hospitalization is not properly managed, its effects may persist for longer and influence the child's experience with healthcare services in the future. Children may require more time to adapt to the hospital environment, become increasingly difficult to engage in care, and exhibit stronger emotional responses when medical procedures are to be performed. Moreover, an unpleasant hospitalization experience may leave a negative impression or cause trauma, making children increasingly fearful when they need to undergo examinations or receive care again in healthcare facilities. Therefore, efforts are needed that not only focus on reducing anxiety symptoms at the time but also provide children with a positive experience during their hospitalization. Interventions that are appropriate to children's world and developmental characteristics are important to enable them to undergo hospitalization more comfortably and prevent prolonged psychological effects (Kartika et al., 2022; Palesa et al., 2025).

One non-pharmacological intervention that can be implemented to help reduce the psychological impact of hospitalization in children is play therapy. Playing is an activity that is closely associated with children's lives and is an important part of the growth and development process. Through play activities, children have opportunities to express their feelings, release emotions, reduce tension, and divert their attention from situations they perceive as frightening. In the context of hospitalization, play therapy can serve as a medium that helps children cope with the hospital environment in a more enjoyable way. Children are not merely positioned as patients receiving care but are also given opportunities to engage in activities appropriate to their needs and developmental stage.

In preschool-aged children, play activities have been shown to increase their sense of security and help improve their mood. When children engage in enjoyable play, their attention can be diverted from fears related to illness, the hospital environment, or medical procedures they may undergo. Such activities can also provide a positive experience amid a hospitalization situation that was previously perceived as stressful. Thus, play therapy can help children gradually adapt to the care environment, allowing their anxiety levels to progressively decrease. In addition, play can serve as a means of communication for children who are not yet able to adequately express their feelings and fears verbally (Harnilawati & Asrianto, 2021; Herman & Sari, 2025).

Play therapy also offers benefits in developing trusting relationships among children, families, and healthcare professionals. Nurses can use play activities as an approach to establish more positive interactions with children before or during the care process. When children feel accepted, cared for, and given opportunities to play according to their developmental stage, they may develop greater trust in healthcare professionals. This condition may potentially enhance children's cooperation during examinations and nursing procedures. Therefore, play therapy has been widely recommended as part of atraumatic nursing care aimed at minimizing the negative effects of healthcare experiences and meeting children's developmental needs during hospitalization (Gupta et al., 2023; Abazari et al., 2025).

One form of play therapy that is simple and easy to implement in pediatric inpatient wards is coloring pictures. Coloring is an activity that is familiar to preschool-aged children because it can be carried out using pictures and an appealing selection of colors. It does not require complex equipment, is relatively easy to adapt to children's physical conditions, and can be performed at the bedside or in a playroom depending on the patient's condition. Nurses can provide pictures appropriate to the child's age and interests and then allow the child to choose colors and complete the picture according to their preferences. This activity can create a more relaxed and enjoyable atmosphere during the child's hospitalization.

Various studies have shown that coloring play therapy is effective in reducing anxiety, alleviating stress associated with hospitalization, and improving children's comfort during hospital care (Herawati & Mariyani, 2023; Desrina et al., 2023). During coloring activities, children's attention becomes more focused on the picture, colors, and the process of completing the activity. Concentrating on an enjoyable activity can help divert children's attention from fear of the hospital environment and medical procedures. In addition to serving as a form of distraction, coloring also provides children with an opportunity to express their emotions freely through their choice of colors and creative activities without necessarily having to express their feelings verbally. This is particularly important for preschool-aged children, whose verbal and emotional abilities are still developing.

The effectiveness of coloring play therapy in reducing anxiety is further supported by a study that found a significant reduction in anxiety scores after the intervention was administered to preschool-aged children undergoing hospitalization. These findings indicate that simple activities appropriate to children's developmental stage can provide significant psychological benefits during the care process. Coloring not only serves as a leisure activity but can also be used as a therapeutic intervention to help children feel calmer and more comfortable and adapt to the hospitalization situation. Given its simple nature, ease of implementation, and relatively low cost, coloring play therapy has the potential to be routinely implemented in pediatric nursing care (Runtuwene et al., 2026; Karnita et al., 2023).

The implementation of coloring play therapy not only benefits children but also supports families and healthcare professionals in the provision of nursing care. Children who are calmer tend to be

easier to communicate with, more willing to undergo examinations, and more cooperative during nursing procedures. This condition can assist nurses in providing care more effectively while reducing obstacles arising from children's anxiety and resistance. For parents, seeing their children remain calmer during hospitalization may also help reduce their concerns and increase family involvement in supporting the child's recovery process. Thus, coloring play therapy can contribute to creating a more positive hospitalization experience for both children and their parents (Mesa et al., 2024; Palesa et al., 2025).

Based on the intervention records for children aged 3–5 years in the pediatric inpatient ward, most children experienced moderate to severe anxiety before receiving coloring play therapy. This condition was reflected in behaviors such as fear, crying, difficulty being soothed, refusal of procedures, and greater dependence on their parents. After receiving coloring play therapy, the children demonstrated changes in their emotional responses, with anxiety levels decreasing to the mild category, while some children no longer exhibited anxiety. These changes indicate that coloring play therapy has the potential to serve as a simple intervention to help children cope with the hospitalization experience more positively.

Based on the description above, coloring play therapy may be considered a non-pharmacological intervention in pediatric nursing care to help reduce anxiety associated with hospitalization. This intervention is consistent with the developmental characteristics of preschool-aged children because it involves an enjoyable activity that is easy to understand and allows children to participate actively. In addition, coloring play therapy is relatively easy for nurses to implement as part of atraumatic nursing care in pediatric inpatient wards. Therefore, this study aimed to implement coloring play therapy to reduce hospitalization anxiety among preschool-aged children aged 3–5 years receiving care in a pediatric inpatient ward and to evaluate changes in their anxiety levels using the Face Anxiety Scale (FAS)..

METHOD

This study employed a case study method with an Evidence-Based Nursing Practice (EBNP) approach involving preschool-aged children experiencing hospitalization-related anxiety in a pediatric inpatient ward. The intervention consisted of coloring play therapy as a form of atraumatic nursing care to help reduce anxiety during hospitalization. The participants were children aged 3–5 years who exhibited signs of anxiety during hospitalization, including crying, fear of healthcare professionals, refusal of nursing procedures, difficulty separating from their parents, and lack of cooperation during the care process. The intervention was conducted from June 9 to 13, 2026, involving ten children who met these criteria based on the findings of nursing assessments. All procedures were performed after obtaining consent from the children's parents or accompanying caregivers, while adhering to ethical principles, maintaining patient confidentiality, and ensuring safety throughout the intervention. This approach aimed to evaluate changes in children's anxiety levels following coloring play therapy as part of child-centered nursing care.

The intervention was conducted using age-appropriate pictures, drawing books, crayons, and colored pencils. Before the activity began, the nurse established a therapeutic approach with the child and parent, explained the purpose of the activity, and then assessed the child's anxiety level using the Face Anxiety Scale (FAS) as baseline data. The child was then given the opportunity to choose pictures and colors according to their preferences to promote comfort and interest in the play activity. During the coloring activity, the nurse provided assistance, encouragement, and therapeutic communication without pressuring the child to complete the picture within a specific time. The coloring play therapy session lasted approximately 20–30 minutes and was adjusted according to each child's physical condition and comfort during hospitalization. After the activity was completed, the child's anxiety level was reassessed using the Face Anxiety Scale (FAS) to

determine the changes following the intervention.

The data were obtained from direct observation of the children's behavior, brief interviews with parents regarding the children's responses during hospitalization, and measurements of anxiety levels using the Face Anxiety Scale (FAS) before and after the intervention. The assessment findings were recorded on an observation sheet containing the respondents' identities, time of implementation, form of intervention, subjective and objective responses, and anxiety scores before and after play therapy. The data were then analyzed descriptively by comparing changes in FAS scores before and after the implementation of coloring play therapy for each respondent. The results of the analysis were subsequently presented in tabular form and described narratively to illustrate changes in anxiety levels following the intervention. The results were interpreted with reference to the concept of hospitalization in children, play therapy theory, and previous research on the effectiveness of coloring play therapy in reducing anxiety among preschool-aged children during hospitalization. Through this method, it is expected that an overview can be obtained of the benefits of implementing coloring play therapy as a simple nursing intervention that is easy to apply in pediatric nursing care.

RESULT

The implementation of coloring play therapy was conducted with ten preschool-aged children (3–5 years) who were receiving care in a pediatric inpatient ward from June 9 to 13, 2026. All respondents exhibited signs of hospitalization-related anxiety before the intervention, including crying when seeing nurses, fear of undergoing nursing procedures, constantly wanting to stay close to their parents, refusing examinations, appearing withdrawn, and asking to go home. Anxiety levels were measured using the Face Anxiety Scale (FAS) before and after the implementation of coloring play therapy. Based on the initial assessment, most children were in the moderate anxiety category (FAS 2), two children experienced severe anxiety (FAS 3), and one child experienced mild anxiety (FAS 1). After receiving coloring play therapy for approximately 20–30 minutes, all respondents showed a decrease in anxiety levels, accompanied by more positive behavioral changes while in the care setting. A summary of the anxiety level measurements before and after the intervention is presented in table 1.

Table 1.
Children's Anxiety Levels Before and After the Implementation of Coloring Play Therapy

No	Day/Date	Respondent	Anxiety Level (FAS) Before Therapy	Anxiety Level (FAS) After Therapy	Description
1	Tuesday, June 9, 2026	An. M	3	1	Anxiety level decreased by 2 levels.
2	Tuesday, June 9, 2026	An. D	2	1	Anxiety level decreased by 1 level.
3	Wednesday, June 10, 2026	An. K	2	1	Anxiety level decreased by 1 level.
4	Wednesday, June 10, 2026	An. L	2	1	Anxiety level decreased by 1 level.
5	Wednesday, June 10, 2026	An. Z	2	1	Anxiety level decreased by 1 level.
6	Thursday, June 11, 2026	An. E	2	1	Anxiety level decreased by 1 level.
7	Thursday, June 11, 2026	An. R	1	0	Anxiety level decreased by 1 level.
8	Friday, June 12, 2026	An. I	2	1	Anxiety level decreased by 1 level.
9	Friday, June 12, 2026	An. Y	2	1	Anxiety level decreased by 1 level.
10	Saturday, June 13, 2026	An. H	3	1	Anxiety level decreased by 2 levels.

The results of the implementation of coloring play therapy in ten preschool-aged children showed changes in anxiety levels following the intervention. Before the intervention, 2 children (20%) experienced severe anxiety, 7 children (70%) experienced moderate anxiety, and 1 child (10%) experienced mild anxiety. After receiving coloring play therapy, 9 children (90%) were in the mild

anxiety category, while 1 child (10%) was in the no-anxiety category. Based on changes in Face Anxiety Scale (FAS) scores, two respondents experienced a decrease of two levels, while eight respondents experienced a decrease of one level. Thus, all respondents showed a reduction in anxiety scores after participating in coloring play therapy.

The changes in anxiety scores were also accompanied by changes in the children's behavioral responses. Before the intervention, the children exhibited various responses reflecting discomfort during hospitalization, such as crying, fussiness, fear of nurses, refusal of nursing procedures, asking to go home, and unwillingness to be separated from their parents. Objectively, the children appeared tense, restless, withdrawn, less cooperative, avoided nurses, and displayed fearful expressions. After participating in coloring play therapy, the children appeared calmer and more comfortable, were able to concentrate, smiled, were willing to communicate with nurses, and were more cooperative during nursing procedures.

These findings indicate that coloring play therapy was associated not only with changes in anxiety scores but also with improvements in adaptive behavior. Play activities can provide children with a more enjoyable experience amid an unfamiliar hospital environment and help divert their attention from situations that induce fear. These findings are consistent with Herawati and Mariyani (2023), who reported the benefits of coloring play therapy in reducing hospitalization-related stress in preschool-aged children. Palesa et al. (2025) also demonstrated that coloring play therapy was associated with reduced hospitalization anxiety among preschool-aged children. Sari et al. (2023), through a case study, further demonstrated that coloring play therapy can be implemented as a nursing intervention to help reduce hospitalization anxiety in children aged 3–6 years.

DISCUSSION

The findings of this study suggest that coloring play therapy may help reduce hospitalization anxiety among preschool-aged children by providing emotional comfort and a sense of enjoyment during hospitalization. At the preschool stage, children tend to express their emotions through play activities, making coloring an appropriate approach to help them cope with unfamiliar situations. These findings indicate that coloring play therapy was associated not only with changes in anxiety scores but also with improvements in adaptive behavior. Play activities can provide children with a more enjoyable experience amid an unfamiliar hospital environment and help divert their attention from situations that induce fear. These findings are consistent with Herawati and Mariyani (2023), who reported the benefits of coloring play therapy in reducing hospitalization-related stress in preschool-aged children. Palesa et al. (2025) also demonstrated that coloring play therapy was associated with reduced hospitalization anxiety among preschool-aged children. Sari et al. (2023), through a case study, further demonstrated that coloring play therapy can be implemented as a nursing intervention to help reduce hospitalization anxiety in children aged 3–6 years.

Under these circumstances, play can be used as part of an atraumatic care approach. Harnilawati and Asrianto (2021) explained that play therapy can help reduce anxiety reactions associated with hospitalization in preschool-aged children. Play allows children to continue engaging in activities appropriate to their developmental stage even while receiving care. By maintaining familiar and enjoyable activities, children have an opportunity to gradually adapt to the hospital environment without constantly being exposed to medical stimuli that may induce fear.

In addition to the hospital environment and medical procedures, the child's relationship with their parents is an important factor during hospitalization. Preschool-aged children still have a strong need for parental presence as a source of security and emotional support. In this implementation, parental accompaniment during the coloring activity can help create a more comfortable atmosphere. Parents can provide physical touch, reassuring words, assistance when the child

experiences difficulties, and appreciation for the outcome of the activity. Fitriani et al. (2023) demonstrated an association between the role of parents and the impact of hospitalization on preschool-aged children. Thus, parental support and accompaniment can be one of the factors that help children cope with emotional changes during hospitalization.

The characteristics of coloring activities are consistent with the needs of preschool-aged children because they allow children to participate actively in selecting pictures and colors. This freedom gives children an opportunity to make simple decisions and regain some of the sense of control that may be reduced during hospitalization. In the hospital environment, many decisions regarding examinations and procedures are determined by adults. Through coloring activities, children can make their own choices, allowing the activity to provide a positive experience and reduce feelings of helplessness.

Observational findings from the implementation also showed that the children were able to concentrate while coloring, smile, appear more relaxed, and begin to interact more confidently with nurses. These conditions indicate that coloring activities can serve as a medium for fostering more positive interactions between children and healthcare professionals. When children's attention is focused on an enjoyable activity, their attention to an environment that was previously perceived as frightening may decrease. Nurses can also use this activity as an opportunity to establish a therapeutic relationship with children. Gupta et al. (2023) explained that play therapy can serve as a medium that helps children express their emotions and cope with emotional and behavioral problems.

Theoretically, the reduction in anxiety through coloring activities can be explained by the mechanisms of distraction and emotional expression. Distraction allows children's attention to be redirected from fear-inducing stimuli toward an engaging activity. While coloring, children's attention is focused on the pictures, shapes, colors, and the process of completing the picture. This condition may reduce children's focus on medical procedures or the hospital environment that previously served as sources of anxiety. At the same time, creative activities provide children with an opportunity to express themselves through their choice of colors and pictures without having to verbally express their entire emotional experience. The use of art activities as part of a psychological approach represents a non-pharmacological approach to helping manage emotional conditions. Thus, coloring activities can be understood not merely as recreational activities but also as activities with therapeutic potential when provided in a structured manner and adapted to individual conditions (Alwledat et al., 2023).

The findings of this implementation are also consistent with previous studies that specifically examined play therapy and coloring activities in children. Kartika et al. (2022) reported an effect of play therapy involving picture coloring on anxiety among preschool-aged children during hospitalization. Desrina et al. (2023) also demonstrated that the provision of coloring play therapy could reduce anxiety levels in preschool-aged children undergoing hospitalization. Karnita et al. (2023) reported that picture coloring therapy could help reduce hospitalization-related stress in children aged 3–6 years. These three studies indicate that coloring activities are relevant as a simple nursing intervention to help address children's psychological responses during hospitalization.

These findings are further supported by Mesa et al. (2024), who demonstrated changes in anxiety levels among preschool-aged children after receiving play therapy for hospitalization-related anxiety. Herman and Sari (2025) also reported the benefits of play therapy in reducing hospitalization anxiety among preschool-aged children aged 3–6 years. Meanwhile, Runtuwene et al. (2026) found a reduction in anxiety levels after children participated in play therapy. The consistent direction of findings across these studies and the present implementation demonstrates

the consistency of the benefits of play therapy as a non-pharmacological intervention to help children cope with psychological distress during hospitalization.

The study by Sari et al. (2023) is particularly relevant because it used coloring play therapy in children aged 3–6 years. The similarity in age characteristics supports the use of coloring activities in preschool-aged children in the present implementation. At this age, concrete activities involving pictures, colors, hand movements, and simple choices are more readily accepted than approaches that require higher levels of verbal ability and abstraction. Therefore, the selection of play activities should consider the child's age, developmental abilities, physical condition, and interests to ensure that the intervention is well accepted.

Coloring activities also provide additional benefits by stimulating concentration and fine motor coordination. Children need to hold coloring tools, direct their hand movements, pay attention to the picture, and select colors. Completing a picture can provide children with a sense of achievement and satisfaction. In the context of hospitalization, this experience can serve as a positive experience that differs from medical experiences, which are often perceived as frightening. Abazari et al. (2025), through a study of children's experiences during hospitalization, showed that children's experiences can be expressed through interviews as well as drawings. These findings support the importance of providing children with opportunities to express their experiences during hospitalization through media appropriate to their developmental characteristics.

These findings are also consistent with Herman and Sari (2025), who demonstrated the benefits of play therapy in addressing hospitalization anxiety among preschool-aged children. In addition, Samuel et al. (2022) reported the benefits of coloring therapy for anxiety in patients with generalized anxiety disorder. Although the characteristics of the respondents differed from those of the preschool-aged children who were the subjects of the present implementation, the study provides support that coloring activities may have therapeutic value in anxiety management. Therefore, coloring activities may be considered a form of creative activity that helps create a more positive emotional atmosphere.

Parental involvement during the therapy was also an important aspect of this implementation. The presence of parents provides emotional support when children feel afraid or experience difficulties. Praise, simple assistance, and accompaniment during the activity can strengthen children's sense of security. Fitriani et al. (2023) emphasized the importance of the parental role in addressing the impact of hospitalization on preschool-aged children. Therefore, coloring play therapy should not be viewed as an intervention conducted solely between nurses and children but can involve the family as part of the child's therapeutic environment.

Collaboration between nurses and parents can improve the quality of therapy implementation. Nurses can determine the timing of the intervention based on the child's condition, assess the child's anxiety level, provide a safe environment, and use therapeutic communication throughout the activity. Parents can provide emotional support and help children feel secure. This family-involved approach allows children to undergo therapy in a more supportive environment. A study by Sarman and Günay (2023) on interventions that can influence children's anxiety, fear, and psychological well-being during hospitalization also demonstrated the importance of an approach that addresses children's psychological aspects rather than focusing solely on their physical condition.

Although all respondents experienced a reduction in anxiety levels, the magnitude of change varied among the children. These differences may have been influenced by individual characteristics, previous hospitalization experiences, disease conditions, pain, types of medical procedures, adaptive abilities, emotional conditions, and family support. Children who had previously

experienced an unpleasant hospitalization may exhibit higher levels of anxiety when receiving care again. Conversely, previous positive experiences may facilitate the adaptation process. Children's interest in coloring activities may also influence their level of engagement during the intervention. Therefore, play therapy should be provided individually, taking into account the needs and characteristics of each child.

The behavioral changes observed in this implementation are an important aspect that complements the FAS measurement results. The children became calmer, easier to communicate with, more willing to interact with nurses, and more cooperative during nursing procedures. Thus, the success of the intervention was assessed not only based on changes in anxiety scores but also through changes in the children's responses to the environment and care process. More cooperative children may help healthcare professionals perform nursing procedures more effectively and establish better therapeutic relationships. These findings support the results of Abdi et al. (2025), which demonstrated the benefits of play-based interventions in helping reduce anxiety among children undergoing hospitalization.

The use of the Face Anxiety Scale in this implementation provided a simple overview of changes in anxiety levels before and after the intervention. A simple instrument can help healthcare professionals evaluate children's responses in a more structured manner. However, the measurement results still need to be interpreted alongside behavioral observations, communication with parents, and the child's clinical condition. In this implementation, changes in FAS categories from severe and moderate anxiety to mild anxiety or no anxiety occurred alongside behavioral changes, with the children becoming more relaxed and cooperative. This provides a more comprehensive picture of changes in the children's emotional condition following the therapy.

The study by Suleman et al. (2022) also supports the use of an art-based approach as a form of distraction to reduce anxiety and discomfort in pediatric patients. Although the context of the intervention differed, the principle of diverting attention through art-based activities is consistent with the mechanism of coloring play therapy in the present implementation. Engaging activities can help reduce children's focus on fear-inducing medical stimuli, thereby enabling them to better cope with procedures and the care environment.

Overall, the results of this implementation indicate that coloring play therapy has potential as a simple non-pharmacological nursing intervention to help reduce hospitalization anxiety in preschool-aged children. This intervention is relatively easy to implement, does not require complex equipment, can be adapted to children's conditions, and can be integrated with therapeutic communication and parental accompaniment. However, the results of this implementation should be interpreted with caution. The number of respondents was limited to ten children, and there was no control group. Therefore, the observed reduction in anxiety cannot be attributed solely and definitively to coloring play therapy. Other factors, such as the passage of time during hospitalization, parental support, communication with nurses, disease conditions, previous experiences, and children's adaptation to the hospital environment, may also have contributed to these changes. Thus, the results of this implementation are more appropriately understood as an indication of the potential benefits of coloring play therapy in the context of nursing care rather than as definitive evidence of causality.

Based on the overall findings, coloring play therapy may be considered as one of the supportive interventions in implementing the principles of atraumatic care. The intervention should be implemented by considering the child's age, physical condition, anxiety level, developmental abilities, interests, and family support. The combination of play activities, therapeutic communication, and parental involvement can create a more comfortable care environment, thereby

helping children adapt to hospitalization.

CONCLUSION

The implementation of coloring play therapy was shown to reduce hospitalization anxiety among preschool-aged children receiving care in a pediatric inpatient ward. Based on the implementation involving ten respondents, all children experienced a reduction in anxiety scores after participating in the therapy, as indicated by changes in anxiety categories from severe or moderate to mild, with one respondent reaching the no-anxiety category. In addition to the reduction in Face Anxiety Scale (FAS) scores, the children also demonstrated more positive behavioral changes, such as becoming calmer, feeling more comfortable in the care setting, being able to interact with nurses, and becoming more cooperative during nursing procedures. Therefore, coloring play therapy can be considered a simple, enjoyable, and developmentally appropriate non-pharmacological nursing intervention to support the reduction of hospitalization anxiety in preschool-aged children.

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Ethical approval: The implementation of this Evidence-Based Nursing Practice was conducted by considering nursing ethical principles. Prior to the intervention, consent was obtained from the parents or guardians of the participating children. The author also maintained the confidentiality of participants' identities and ensured the safety and comfort of the children throughout the coloring play therapy.

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Author Contributions: Lelya Puput Novita Sari was responsible for preparing the activity plan, conducting nursing assessments, selecting interventions based on Evidence-Based Nursing Practice, implementing coloring play therapy, collecting and analyzing data, and preparing the final professional nursing project.

Declaration of the Use of Artificial Intelligence in Scientific Writing: Artificial intelligence was used as a supporting tool during the preparation and editing of this final professional nursing project, particularly to improve sentence structure and language clarity. All implementation data, observations, and intervention evaluations were based on activities conducted by the author. The author takes full responsibility for the content, data accuracy, and final preparation of this project.

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