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Implementation of Puzzle Play Therapy to Reduce Hospitalization Anxiety in Preschool Children with Febrile Seizures: A Case Study

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ABSTRACT

Hospitalization is an experience that can cause anxiety in preschool children due to changes in their environment, invasive medical procedures, and the children's limited ability to understand their illness. Anxiety that is not properly managed can hinder the treatment process and worsen the child's condition. One nonpharmacological nursing intervention that can be used to reduce anxiety in preschool children is puzzle play therapy as a form of distraction and developmental stimulation. This study aims to describe the application of puzzle play therapy in reducing hospitalization anxiety levels in preschool children diagnosed with febrile seizures in the pediatric ward of Prof. Dr. H. Aloei Saboe General Hospital in Gorontalo City. The method used was a case study with a nursing care approach that included assessment, nursing diagnosis, planning, implementation, and evaluation. The interventions carried out were anxiety reduction and puzzle play therapy, conducted over three days. Anxiety levels were assessed through observation of the children's behavior using the Modified Yale Preoperative Anxiety Scale (m-YPAS). The results of the intervention showed a decrease in the anxiety score from 86.6 (severe anxiety) to 31.6 (mild anxiety), as well as changes in the child's emotional responses and behavior, marked by a reduction in crying and restlessness; the child appeared calmer, more cooperative, and able to interact with the nurses. The conclusion of this case study indicates that the application of puzzle play therapy as part of nursing care, along with therapeutic communication and parental involvement, can support children's adaptation process during hospitalization.

1. INTRODUCTION

Children who experience seizures are often admitted to the hospital for observation, forcing them to face an unfamiliar hospital environment and unfamiliar medical procedures (Xixis KL, et al. 2024). The process of receiving care—which requires a child to be admitted to the hospital, undergo various therapeutic procedures and treatments, and eventually return home—is commonly referred to as hospitalization. Hospitalization is a situation in which a child receives care at a hospital for a specific period of time, whether due to a critical condition or planned nursing interventions (Yanthi et al., 2022).

Preschoolers do not yet possess the cognitive maturity to understand the reasons for their care, so they often interpret hospitalization as a threat. This can lead to anxiety during their stay, particularly for children experiencing their first hospitalization (Carman & Kyle, 2012; Hockenberry et al., 2021). The change in environment during a hospital stay can cause fear, as various medical procedures may cause pain, which can lead to trauma in children. Additionally, certain conditions and procedures require children to be separated from their parents, which further exacerbates the traumatic impact of hospitalization (Yanthi et al., 2022). In many situations, children are not yet fully capable of understanding the circumstances they are experiencing, making them more prone to anxiety due to environmental changes and limited coping mechanisms (Usman et al., 2025).

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Globally, the prevalence of anxiety disorders in children is estimated to range from 6.5% to 10% of the child population, with hospitalization identified as a significant trigger for situational stress (World Health Organization, 2022). In the Asian region, various publications report an increase in emotional distress among children undergoing hospital care, particularly among preschool-aged children (3–6 years) (Kim 2022). In Indonesia, the availability of comprehensive national data on childhood anxiety resulting from hospitalization remains limited. Data from the Central Statistics Agency (2025) indicate that approximately 7.36% of children in Indonesia are hospitalized, and the majority of them experience mild to moderate levels of anxiety.

The anxiety experienced by children during hospitalization can have consequences that, if not properly managed, may lead to refusal of medical interventions. In the short term, this condition can hinder the effectiveness of treatment, prolong the duration of care, worsen the patient's condition, and increase the risk of complications and even death (Safira et al., 2023).

Nurses play a crucial role in providing nursing care, particularly in minimizing the impact of anxiety caused by the stress of hospitalization in children. One approach that can be used to reduce anxiety in hospitalized children is distraction techniques. Distraction is a method used to shift a child's focus and attention away from feelings of anxiety. One form of distraction technique is play therapy, which, according to various studies, is effective in helping to divert a child's attention away from anxiety (Jannah et al., 2023).

Play therapy is a form of nursing intervention designed for children undergoing hospital care, aimed at supporting the effectiveness of the treatment and care process (Usman et al., 2025). Play therapy is an approach that uses play activities as a means to help children express their feelings, understand their experiences, and cope with anxiety (Fibiyanti et al., 2024).

Various research findings indicate that play therapy is effective in reducing anxiety levels in children during hospitalization. One type of game that can be used is puzzles, which not only help develop children's motor skills but also serve as a distraction technique to reduce anxiety (Safira et al., 2023). Puzzles are a type of game with the potential to serve as ISSN: an effective distraction to divert children's attention from their fears, thereby helping to reduce anxiety levels. Puzzle-based play therapy can act as a coping mechanism to help children divert their attention from situations that may trigger anxiety (Safitri & Irdawati, 2025).

A study conducted by (Yulianto et al., 2021) showed that puzzle play therapy has an effect on anxiety levels in preschool-aged children in a children's playroom. Consistent with a study conducted by (Pratiwi et al., 2023) involving two children experiencing anxiety due to hospitalization, the application of puzzle play therapy resulted in a reduction in anxiety levels.

Although several previous studies have shown that puzzle play therapy can help reduce hospitalization anxiety in preschoolers, most of these studies used quantitative designs with experimental or quasi-experimental approaches that focused on measuring the effectiveness of the intervention within a group of participants. These studies generally have not described in detail the process of implementing puzzle-based play therapy as part of nursing care for an individual patient, including changes in the patient's response during each stage of implementation. Furthermore, research specifically examining the application of puzzle-play therapy in preschoolers diagnosed with febrile seizures remains limited, even though the patients' clinical characteristics—such as physical condition, activity limitations due to medical procedures, and anxiety responses during hospitalization—can influence the implementation of the intervention. Therefore, a case study is needed to provide a comprehensive overview of the process of implementing nursing care through puzzle-play therapy in preschool children with febrile seizures who experience anxiety due to hospitalization.

Based on a preliminary study conducted in the pediatric ward of Prof. Dr. H. Aloei Saboe Regional General Hospital in Gorontalo City, data on pediatric patients with febrile seizures over a 3-month period—from October to December 2025—totaled 63 children. Furthermore, based on observations and interviews with several nurses on the ward, nearly all preschoolers experiencing febrile seizures and undergoing treatment exhibited anxiety, characterized by frequent crying, fussiness, defiance, difficulty sleeping, fear when approached, and a lack of cooperation with nursing interventions.

Based on the above description, the author is interested in conducting a case study Effect of Puzzle Play Therapy on Reducing Hospitalization Anxiety in Preschool Children with a Medical Diagnosis of Febrile Seizures in the Pediatric Ward of Prof. Dr. H. Aloei Saboe Regional General Hospital, Gorontalo City.

2. METHOD

This study employed a case study design with a nursing care approach. The case study design was chosen to provide an in-depth description of the stages of the nursing process—from assessment, diagnosis, and intervention to implementation and evaluation of nursing outcomes—in reducing anxiety in a preschool-aged child hospitalized with a diagnosis of febrile seizures. The research subject was a 3-year-old boy who was receiving care in the pediatric ward of the " " at Prof. Dr. H. Aloei Saboe General Hospital in Gorontalo City and exhibited signs and symptoms of anxiety during his hospitalization, such as frequent crying and fussiness, fear when approached by nurses or when procedures were about to be performed, as well as appearing tense and screaming, clutching his mother's hand tightly, and refusing to be left alone by his parents. The patient's general condition appeared lethargic with clear consciousness (GCS 15); vital signs showed a pulse of 111 beats per minute, a body temperature of 37.8°C, and a respiratory rate of 24 breaths perminute. Data collection was conducted through interviews with the parents, direct observation of the child's emotional responses and behavior, and a review of nursing care documentation. The nursing care process included the assessment phase, the establishment of a nursing diagnosis of anxiety related to a situational crisis (hospitalization), intervention planning, implementation, and evaluation. The interventions provided consisted of anxiety reduction through a calm and reassuring therapeutic approach, as well as play therapy using puzzles tailored to the child's developmental stage. The selected puzzles were made of thin wood, had smooth, colored surfaces with simple designs, lacked sharp edges, and consisted of 5–10 pieces. The intervention was implemented for three consecutive days. Data analysis was conducted using qualitative descriptive methods by comparing changes in the child's behavioral responses and anxiety levels before and after the intervention. Anxiety levels were measured using the Modified Yale Preoperative Anxiety Scale, with the following interpretations: ≤ 30: no anxiety; 31–40: mild anxiety; 41–60: moderate anxiety; ≥ 60: severe anxiety. This study adhered to research ethics principles by obtaining consent from the subjects' parents and maintaining the children's anonymity. This study also adhered to inclusion and exclusion criteria; the inclusion criteria included preschool-aged children hospitalized with a diagnosis of febrile seizures, experiencing hospitalization anxiety, in stable general condition, and with parental consent, while the exclusion criteria included children with impaired consciousness, critical conditions, or disorders that hindered the implementation of play therapy. This case was selected because it illustrates patient characteristics consistent with the study's focus, thereby providing a comprehensive overview of the implementation of nursing care from assessment to evaluation without aiming to test the effectiveness of the intervention or generalize the study's findings.

3. RESULT AND DISCUSSION

Result

The intervention was implemented on patient An. AMZ, aged 3 years and 6 months, who was admitted to the hospital with a diagnosis of febrile seizures. During the assessment conducted on January 19, 2026, at 6:20 PM in the pediatric ward of Aloei Saboe Regional General Hospital in Gorontalo City, the patient's general condition appeared lethargic with clear consciousness (GCS 15); vital signs showed a pulse of 111 beats per minute, a body temperature of 37.8°C, and a respiratory rate of 24 breaths per minute. During the assessment, the patient was crying and fussy, showed fear when a nurse approached or when a procedure was about to be performed, appeared tense, and screamed while clutching her mother's hand tightly; she refused to be separated from her parents. An assessment of the patient's anxiety level using the Modified Yale Preoperative Anxiety Scale (m-YPAS) yielded a score of 86.6, indicating severe anxiety.

Table 1. Patient's Progress During Puzzle Play Therapy

Day/Date	Nursing Intervention	Patient Progress	m-YPAS Score	Category
Day I January 20, 2026	Observation of signs of anxiety, education for parents regarding puzzle play therapy, therapeutic approach, provision of 5–6 piece wooden puzzles appropriate for the child's age, and implementation of puzzle play therapy for approximately 30 minutes.	Before the intervention, the patient was crying, screaming when approached by the nurse, had poor eye contact, clung tightly to her mother, refused to play, and appeared tense. After the therapeutic approach and play therapy were implemented, the patient began to calm down, stopped crying, was willing to play with the puzzles with the help of her parents and the nurse, and began to accept the nurse's presence, although she still appeared fearful and eye contact was not yet optimal.	86,6 ↓ 65	Severe anxiety
Day II January 21, 2026	Reassessment of anxiety levels, continued puzzle play therapy in a therapeutic setting, and education for parents on involving their child in play activities as a distraction during hospitalization.	The patient appeared calmer, no longer showed excessive fear when approached by nurses, made better eye contact, was able to select and assemble puzzles independently, was more focused, cooperative, and expressive, and no longer appeared tense.	65 ↓ 46,6	Moderate anxiety
Day III January 22, 2026	Observation of anxiety symptoms and final evaluation through puzzle play therapy.	The patient was able to interact well, was active and expressive during play, assembled the puzzle independently with minimal assistance, showed expressions of joy, maintained good eye contact, did not cry, did not resist nursing interventions, and appeared only slightly alert without impairing her ability to adapt to the hospital environment.	46,6 ↓ 31,6	Mild anxiety

Based on Table 1 above, there appears to be a gradual decrease in the patient's anxiety level over the 3 days of the puzzle-playing intervention. The Modified Yale Preoperative Anxiety *Scale (m-YPAS) score decreased from 86.6 (severe anxiety) to 65 on the first day after the* intervention; on the second day, the score decreased to 46.6; and on the third day, it further decreased to 31.6, falling into the mild anxiety category. Along with the decrease in anxiety scores, the patients also exhibited positive behavioral changes, including a reduction in crying and resistance toward healthcare providers, increased eye contact, improved ability to interact with nurses, and greater independence and focus during the puzzle- -based play therapy. These results indicate that the implementation of puzzle- -based play therapy as part of nursing care contributes to improved adaptation in children during hospitalization.

Discussion

The results of this case study indicate that the implementation of puzzle play therapy as part of nursing care, combined with a therapeutic approach and parental involvement, led to a

reduction in hospitalization anxiety levels among preschool-aged children diagnosed with febrile seizures. Based on measurements using the Modified Yale Preoperative Anxiety Scale (m-YPAS), the patients' anxiety scores decreased gradually from 86.6 (severe anxiety) before the intervention to 65 (severe anxiety) on the first day, 46.6 (moderate anxiety) on the second day, and 31.6 (mild anxiety) on the third day. This decrease in scores was also accompanied by changes in the patients' behavior, namely a reduction in crying, resistance to nursing interventions, and fear when approached by healthcare providers, as well as an increase in eye contact, interaction skills, and patient participation during play therapy.

According to Stuart (2021), anxiety in children arises as a response to an individual's inability to anticipate and control stressful situations. In children, particularly those of preschool age, anxiety is more often situational (state anxiety) due to limited cognitive and emotional abilities to understand environmental changes and new experiences. Play therapy is a form of therapeutic intervention that uses play activities as a medium to help children express feelings, thoughts, and experiences that are difficult to articulate verbally. Play serves as children's natural language for channeling emotions, reducing stress, and enhancing their ability to adapt to anxiety-inducing situations during hospitalization (Hockenberry & Wilson, 2021).

Puzzles, as a form of constructive play, possess characteristics that align with the developmental needs of preschool-aged children during hospitalization. Puzzle-playing activities involve concentration, hand-eye coordination, and simple problem-solving. Based on Piaget's cognitive theory (1952), playing with puzzles helps children organize their experiences and gradually build an understanding of their environment, so that situations initially perceived as threatening become more predictable and manageable (Papalia & Martorell, 2021). In the study " , puzzle-playing therapy serves as an effective coping mechanism to help children divert their attention from anxiety-inducing situations. The results of the intervention demonstrated that puzzle-playing therapy effectively reduced anxiety levels in preschoolers undergoing hospitalization. Changes exhibited by patients during the intervention process were evident through stable emotional responses, increased cooperative behavior during interactions, and the children's ability to concentrate and enjoy play activities. These findings align with the study " " (Florenza & Irdawati, 2025) , which showed that prior to the intervention, children exhibited moderate to severe anxiety symptoms, such as restlessness and resistance to medical procedures; however, after receiving puzzle-based play therapy, the children's emotions became stable, calm, and cooperative toward the care environment, resulting in a significant reduction in anxiety levels.

The results of this study also align with the research (Nazarius et al., 2025) , which showed that after receiving puzzle play therapy, all children in the intervention group fell into the "not anxious" category, with a significant difference compared to the control group. These findings indicate that puzzle play therapy is capable of providing a meaningful therapeutic effect on children's emotional state during hospitalization. Consistent with these findings, a study conducted by the indicates that children's anxiety scores gradually decreased from the severe category to the moderate and mild categories following the implementation of puzzle play therapy. These findings show a pattern similar to that observed in this study, namely that repeated puzzle play therapy interventions have a positive impact on reducing anxiety.

Although the results align with those of several previous studies, there are still differences in the final anxiety levels achieved. In this study, patients still exhibited mild ISSN: anxiety on the third day even though their anxiety scores had decreased to the mild category. This condition was likely influenced by the medical diagnosis of febrile seizures, as patients were still undergoing medical procedures and remained in a hospital setting. Additionally, the patient's preschool age meant that their ability to understand their illness and medical procedures was still limited. Other factors, such as the experience of hospitalization for the first time, the child's individual characteristics, and the duration of care, may also influence the speed of adaptation to the hospital environment. Therefore, the reduction in anxiety in this case study is viewed as the result of the interaction of various factors, not solely due to the administration of puzzle play therapy.

Based on these results, the researchers hypothesize that the implementation of puzzle-play therapy is one of the nonpharmacological interventions that can support a child's adaptation

process during hospitalization if carried out consistently and combined with therapeutic communication, an approach appropriate to the child's developmental stage, and active parental involvement in every stage of care. Thus, the changes in anxiety levels observed in the patients in this case study are more accurately understood as an indication of the success of comprehensive nursing care rather than as evidence of a cause-and-effect relationship between puzzle-play therapy and reduced anxiety.

4. CONCLUSION

This case study describes the application of nursing care through puzzle play therapy in a preschool-aged child with a medical diagnosis of febrile seizures who was experiencing anxiety due to hospitalization. Over the course of three days of intervention, there was a reduction in anxiety levels as measured by the Modified Yale Preoperative Anxiety Scale (m-YPAS), from a score of 86.6 (severe anxiety) to 31.6 (mild anxiety), accompanied by behavioral changes such as reduced crying, decreased resistance to nursing interventions, increased eye contact, improved ability to interact with healthcare providers, and better participation in play activities. These findings indicate that the implementation of puzzle play therapy as part of nursing care, along with therapeutic communication and parental involvement, can support a child's adaptation process during hospitalization. However, because this study used a single-subject case study design, the results cannot be generalized and may serve as a reference for the application of nursing interventions in similar cases or as a basis for further research with a larger sample size and a stronger research design. It is hoped that this study can serve as a reference that can be applied as a standalone intervention to reduce hospitalization anxiety in preschool-aged children.

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