

Storytelling-Based Nursing Communication During Hospitalization: Its Impact On Anxiety And Influencing Factors In Preschool Children: *A Systematic Review*

Citra Suraya^{1,2*} , Aris Citra Wisuda² , Tukimin bin Sansuwito³ , Regidor III Dioso⁴ ,
Dian Emiliyasi⁵ 

^{1,3,4}School of Nursing and Applied Science, Lincoln University College, Malaysia

^{2,5}Nursing Study Program, Sekolah Tinggi Ilmu Kesehatan Bina Husada Palembang, Indonesia

*Email: citrasuraya.edu@gmail.com

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ABSTRACT

Hospitalization often triggers anxiety in preschool children due to unfamiliar environments, parental separation, and invasive procedures. Storytelling-based nursing communication has shown promise as an effective intervention to reduce this anxiety. This systematic review explores the effectiveness and influencing factors of hospitalization anxiety in children aged 3–6 years. Literature was searched from PubMed, Scopus, ScienceDirect, and Google Scholar for studies published between 2020 and 2025. Nine experimental or quasi-experimental studies from Indonesia, Iran, Brazil, Italy, and Turkey met the inclusion criteria, all involving nurse-led storytelling interventions. Most studies reported significant reductions in anxiety. Key influencing factors included age, length of stay, hospitalization history, parental presence, and storytelling methods. The intervention consistently enhanced emotional comfort, reduced fear, and strengthened nurse-child interaction. In conclusion, storytelling is an effective non-pharmacological strategy to reduce hospitalization anxiety in preschool children and supports child-centered nursing care when tailored to the child's developmental stage, experiences, parental involvement, and cultural context.

INTRODUCTION

Hospitalization is a major source of anxiety for preschool children, who are at a critical stage of emotional and social development. (Ginting et al., 2024). Globally, it is estimated that 30–50% of hospitalized children experience moderate to severe anxiety during their hospital stay (Hockenberry, 2024). In Asia, similar patterns are observed, with studies indicating that 40–60% of preschool-aged children hospitalized for acute and chronic conditions display heightened anxiety symptoms (Hanif, 2025). In Indonesia, research shows that approximately 55% of hospitalized preschool children experience significant anxiety, impacting their coping

mechanisms, recovery processes, and overall well-being (Aulia et al., 2024; Rianthi et al., 2022).

Preschool children's anxiety during hospitalization stems from multiple factors. Their limited cognitive development makes it difficult to understand the hospital environment, procedures, and separation from parents (Bajpai, 2024; Israeli et al., 2022). Factors influencing their anxiety include age, previous hospitalization experiences, length of stay, degree of parental presence, and the way healthcare professionals interact with them (Sextou, 2023). Physical factors such as pain, invasive procedures, and unfamiliar surroundings also exacerbate anxiety levels (Lewis, 2018).

Nurses play a critical role in managing hospitalization anxiety in preschool children. As primary caregivers within the hospital setting, nurses are uniquely positioned to provide emotional support, foster trust, and create a therapeutic environment (Suraya et al., 2024; Wisuda, 2020). Pediatric nurses utilize various strategies, including preparation programs, parental involvement facilitation, therapeutic play, and communication techniques, to reduce children's fear and distress during hospital stays (Sarin, 2022; Brimble, 2021).

One emerging and promising approach is storytelling-based nursing communication. Storytelling uses structured narratives, characters, and imaginative plots to help children understand and cope with their experiences. Through storytelling, complex medical information can be conveyed in a way that aligns with the child's developmental level, making unfamiliar situations more relatable and less intimidating (Alison Milford, 2024; Muhith, 2021). In the nursing context, storytelling serves not only as a distraction but also as a therapeutic tool that promotes emotional expression, reduces procedural fear, strengthens the child-nurse bond, and fosters resilience during hospitalization (Mtchell & Vosmeer, 2021).

Storytelling-based communication has emerged as an increasingly recognized approach in pediatric nursing. This method utilizes structured narratives, relatable characters, and imaginative plots to help children process and cope with their hospital experiences. Through storytelling, complex medical information can be communicated in a developmentally appropriate and engaging way, making unfamiliar procedures and environments more comprehensible and less intimidating (Alison Milford, 2024; Muhith, 2021). Within clinical settings, storytelling functions not only as a distraction technique but also as a therapeutic intervention. It encourages emotional expression, reduces procedural anxiety, strengthens the nurse-child relationship, and fosters psychological resilience during hospitalization (Mtchell & Vosmeer, 2021). Integrating storytelling into nursing practice bridges the gap between clinical care and the emotional needs of the child, promoting a more holistic and child-centered approach to care.

The concept of storytelling-based communication integrates elements of therapeutic communication, developmental psychology, and child-centered care. By using storytelling, nurses can actively engage the child's imagination, facilitate emotional regulation, and address both cognitive and emotional aspects of hospitalization anxiety. Previous studies have shown that storytelling interventions can significantly lower anxiety scores among hospitalized preschoolers compared to traditional methods (Garzon, 2023; James, 2022).

Given the growing interest in non-pharmacological interventions for pediatric anxiety and the evolving role of pediatric nurses, it is essential to systematically examine how storytelling-based nursing communication impacts hospitalization anxiety and which factors influence its effectiveness. Therefore, this systematic review aims to synthesize current evidence on "Storytelling-Based Nursing Communication During Hospitalization: Its Impact on Anxiety and Influencing Factors in Preschool Children."

METHOD

This systematic review was conducted to evaluate the effectiveness of storytelling-based nursing communication in reducing hospitalization anxiety among preschool children and to identify the factors influencing anxiety during hospital stays. A structured and transparent process was followed to enhance the rigor, reliability, and validity of the findings. The review was designed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Study Design

The review utilized a systematic literature review design, focusing on experimental and quasi-experimental studies that implemented storytelling-based nursing interventions for hospitalized preschool children. The approach included a comprehensive search, defined inclusion criteria, data extraction, quality assessment, and narrative synthesis of findings.

Search Strategy

A comprehensive literature search was performed across four electronic databases: PubMed, Scopus, ScienceDirect, and Google Scholar. The search targeted studies published between 2020 to

2025. The keywords used were: “*storytelling*,” “*nursing communication*,” “*hospitalization anxiety*,” “*preschool children*,” and “*pediatric nursing*,” combined using Boolean operators (*AND*, *OR*). Reference lists of relevant articles were also manually reviewed to identify additional studies.

Inclusion and Exclusion Criteria

Studies were included if they met the following criteria: an experimental or quasi-experimental design; participants were hospitalized preschool-aged children (3–6 years); interventions involved storytelling-based communication delivered by nurses; anxiety was measured as a primary outcome; articles were published in English or Indonesian, available in full text, and published between 2020 and 2025. Studies were excluded if they involved non-preschool-aged children, interventions that were not led by nurses or not based on storytelling, or were observational, qualitative, or review studies. Additionally, articles not available in full text or not published in English or Indonesian were excluded.

Data Extraction and Synthesis

Data were independently extracted by two reviewers using a structured data extraction form. Extracted items included: authors, publication year, country, sample size, intervention characteristics (e.g., format, frequency, duration), outcome measurement tools, primary results, and factors influencing anxiety. Any discrepancies were discussed and resolved through consensus. Findings were synthesized narratively due to variability in intervention formats and outcome measures.

Quality Assessment

The methodological quality of included studies was evaluated using the JBI Critical Appraisal Checklist for experimental and quasi-experimental studies. Each study was assessed for clarity of aims, methodological rigor, sample representativeness, intervention fidelity, measurement validity, and outcome reporting. Studies rated as moderate to high quality were included in the final synthesis.

The methodological quality of the included studies was evaluated using the JBI Critical Appraisal Checklist for experimental and quasi-experimental designs. Each study was assessed across key domains including clarity of research objectives, methodological rigor, sample representativeness, fidelity of the intervention, validity and reliability of

outcome measures, and transparency in reporting results. The appraisal revealed that most studies met the majority of the criteria, demonstrating moderate to high methodological quality. Common strengths included clearly defined inclusion criteria, valid measurement tools, and appropriate statistical analyses. However, a few studies lacked detailed descriptions of randomization processes or blinding procedures. Only studies that achieved an overall rating of moderate to high quality were included in the final synthesis to ensure the credibility and reliability of the review findings.

Study Selection

From the database search and manual screening, nine studies met the eligibility criteria. These studies were conducted in Indonesia, Iran, Brazil, Italy and Turkey, reflecting diverse cultural and healthcare contexts. Most studies reported significant anxiety reduction in preschool children following storytelling interventions. Key influencing factors identified included child’s age, length of hospital stay, previous hospitalization experiences, parental presence, and storytelling method and content.

Outcomes

The primary outcome assessed in this review was the level of hospitalization anxiety among preschool-aged children (3–6 years) following storytelling-based nursing communication interventions. Anxiety levels were measured using standardized instruments, including the Faces Anxiety Scale (FAS), the State-Trait Anxiety Inventory (STAI), the Preschool Anxiety Scale (PAS), the Hamilton Anxiety Rating Scale (HARS), or researcher-developed observational checklists. Secondary outcomes focused on identifying key factors influencing hospitalization anxiety, such as the child’s age, length of hospital stay, prior hospitalization experience, parental presence, and the storytelling methods and content used.

Data Synthesis and Analysis

A narrative synthesis was conducted due to variations in study designs, measurement tools, and intervention protocols. Data were systematically reviewed to summarize storytelling characteristics (e.g., frequency, duration, media, delivery), changes in anxiety levels, and influencing factors. Thematic analysis revealed consistent patterns, including the effectiveness of storytelling in reducing anxiety, the

supportive role of nurses, and the impact of contextual factors like age and parental presence. Meta-analysis was not feasible due to data inconsistencies, so evidence strength was assessed quantitative based on the direction and consistency of reported outcomes.

RESULTS

Literature Search

A comprehensive and systematic literature search was conducted across four major electronic databases: PubMed ($n = 321$), Scopus ($n = 305$), ScienceDirect ($n = 210$), and Google Scholar ($n = 180$), resulting in a total of 1,016 records. After the removal of 190 duplicates, 826 unique records remained and were screened based on titles and abstracts. Of these, 764 studies were excluded for reasons such as irrelevant population (non-preschool

children), absence of storytelling interventions, non-nursing delivery, or unrelated outcomes. Subsequently, 62 full-text articles were assessed for eligibility. After full-text review, 53 articles were excluded due to being in languages other than English or Indonesian ($n = 10$), involving participants outside the 3–6 years age range ($n = 13$), being conducted in non-hospital settings ($n = 15$), or employing storytelling interventions that were insufficiently described or not structured ($n = 10$).

Ultimately, nine studies met all inclusion criteria and were included in the systematic review. The study selection process adhered to the PRISMA guidelines. Multiple reviewers independently assessed eligibility, and any disagreements were resolved through consensus or consultation with a third reviewer to ensure rigor and minimize bias.

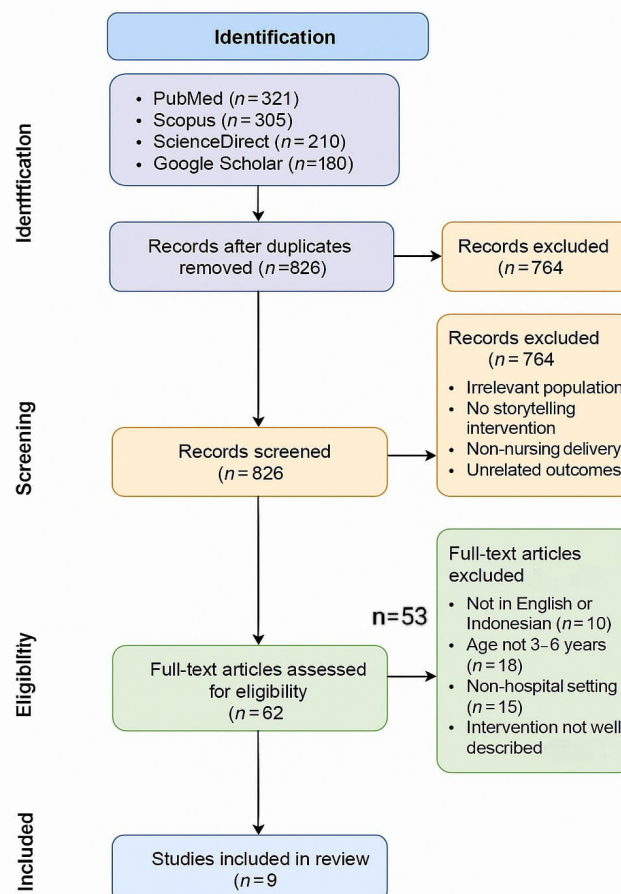


Figure 1: The inclusion process is illustrated in the PRISMA flow diagram

Descriptive Characteristics

Nine studies published between 2020 and 2025 met the inclusion criteria, examining the impact of storytelling-based nursing communication on hospitalization anxiety and its influencing factors in preschool children aged 3–6 years across Indonesia, Iran, Brazil, Italy and Turkey. Using experimental or quasi-experimental designs with sample sizes ranging from 20 to 120 children hospitalized for various conditions, the studies consistently showed that storytelling interventions delivered by trained nurses through formats like picture books, digital media, and puppet narratives were developmentally appropriate and effective in reducing anxiety. Sessions typically lasted 15–30 minutes and emphasized familiarization with hospital environments, medical procedures, and coping strategies. Anxiety outcomes, measured by validated instruments such as the FAS, STAI-C, HARS, DASS, CFS, PAS, and m-YPAS, indicated significant reductions, with influencing factors including age, prior hospital experience, duration of stay, parental presence, and storytelling method. Quality appraisals rated most studies as moderate to high, despite minor limitations like small samples and lack of blinding.

Table 1. Basic Characteristics of the Included Studies and Quality Evaluation

No	Author (Year)	Country	Sample Size (n)	Study Design	Intervention Characteristics	Outcome Measure	Main Findings	Quality Score*
1	(Haristiani et al., 2022)	Indonesia	41	Quasi-experimental	Storytelling therapy with audio-visual media, 20 min each	HARS	Significant anxiety reduction	High
2	(Brockington et al., 2021)	Brazil	120	Experimental (RCT)	Puppet-based storytelling, 3 sessions, 30 min each	STAI-C	Decrease in anxiety scores	High
3	(Capurso et al., 2021)	Italy	110	Quasi-experimental	Digital storytelling via tablets, 1 session, 25 min	PAS	Anxiety significantly reduced	High
4	(Golitaleb et al., 2023)	Turkey	90	Experimental (RCT)	Storytelling combined with role play, 2 sessions, 20 min each	CFS	Lower postoperative anxiety	High
5	(Lestari, 2022)	Indonesia	86	Quasi-experimental	Picture book storytelling, 1 session, 15 min	DASS-42	Reduced preoperative anxiety	Moderate
6	(Soroushvala, 2023)	Iran	45	Experimental	Animated digital storytelling, 3 sessions, 30 min each	PAS	Significant anxiety decrease	High
7	(Alaeifard et al., 2022)	Iran	45	Quasi-experimental	Puppet storytelling + visual aids, 2 sessions, 25 min	STAI-C	Significant anxiety reduction	High
8	(Partiwi, 2023)	Indonesia	34	Experimental	Bedside storytelling + therapeutic play, 2 sessions, 20 min each	m-YPAS	Anxiety scores improved	Moderate
9	(Mesa et al., 2024)	Indonesia	20	Quasi-experimental	Storytelling with hospital familiarization themes, 1 session, 20 min	FAS	Decreased hospitalization anxiety	Moderate

Table 2. Factors Affecting Preschool Children's Anxiety During Hospitalization

No	Author (Year)	Child's Age	Length of Hospital Stay	Previous Hospitalization Experiences	Parental Presence
1	(Haristiani et al., 2022)	3-6 years	3 days	No	Present

2	(Brockington et al., 2021)	3-6 years	3 days	No	Present
3	(Capurso et al., 2021)	3-6 years	1-2 days	Yes	Present
4	Golitaleb et al., 2023)	3-5 years	1-3 days	No	Present
5	(Lestari, 2022)	3-6 years	1 day	Yes	Present
6	(Soroushvala, 2023)	3-6 years	2-4 days	No	Present
7	(Alaeifard et al., 2022)	3-5 years	2 days	Yes	Present
8	(Partiwi, 2023)	3-6 years	1-3 days	No	Present
9	(Mesa et al., 2024)	3-5 years	1 day	Yes	Present

Main Findings

The main findings from the nine studies published between 2020 and 2025, examining the impact of storytelling-based nursing communication on hospitalization anxiety in preschool children (ages 3–6) across Indonesia, Iran, Brazil, Italy and Turkey, consistently highlight the effectiveness of this intervention. Storytelling, delivered by trained nurses using various formats such as picture books, digital media, and puppet narratives was found to be developmentally appropriate and effective in reducing anxiety in hospitalized children. The interventions typically lasted between 15 and 30 minutes and focused on familiarizing children with the hospital environment, medical procedures, and coping strategies.

The studies utilized validated anxiety measurement tools, including the FAS, STAI-C, HARS, DASS, CFS, PAS, and m-YPAS, to assess anxiety outcomes. Across all studies, significant

reductions in anxiety were observed following the interventions, with influencing factors identified as including the child's age, prior hospitalization experience, duration of stay, parental presence, and the method of storytelling used. For example, younger children and those with prior hospital experience tended to show greater anxiety reductions. Parental presence during the sessions also enhanced the calming effects of the storytelling intervention. The quality appraisals of the studies rated most as moderate to high, with minor limitations such as small sample sizes and the absence of blinding. Despite these limitations, the studies provided consistent evidence of the positive impact of storytelling-based nursing communication in alleviating anxiety among preschool children during hospitalization. These findings underscore the potential of this intervention as a valuable tool in pediatric nursing care to address emotional needs and enhance the hospital experience for young children.

DISCUSSION

This systematic review, synthesizing evidence from nine studies conducted between 2020 and 2025 across Indonesia, Iran, Brazil, Italy, and Turkey, underscores the significant potential of storytelling-based nursing communication as an effective intervention for alleviating hospitalization anxiety in preschool-aged children. Consistent with a growing body of pediatric nursing literature (Bajpai, 2024; Dean & Parson, 2023), the findings demonstrate that storytelling represents a developmentally appropriate, emotionally supportive strategy for helping young children manage stress and anxiety during hospitalization.

Across the included studies, storytelling interventions were delivered through various modalities such as picture books, puppet shows, digital storytelling, role-playing activities, and bedside narratives tailored specifically to the developmental stages of children aged 3 to 6 years. Intervention sessions typically ranged from 15 to 30 minutes and were administered by trained nurses. Anxiety outcomes, measured using validated instruments such as the FAS, STAI-C, PAS, HARS, DASS, CFS, and m-YPAS, consistently showed significant reductions in hospitalization anxiety following the intervention. These results align with prior research indicating that narrative-based

interventions allow children to process their experiences, enabling them to reframe distressing hospital events into more comprehensible and manageable narratives (Dewi et al., 2021; Puspita Sari et al., 2021).

Storytelling effectively reduces anxiety by familiarizing children with the hospital environment, demystifying medical procedures, and equipping them with coping strategies. By transforming unfamiliar and potentially frightening experiences into structured, relatable stories, children are afforded an emotional framework that fosters understanding and security. According to Alison Milford (2024), providing children with a coherent narrative structure enhances their sense of control and mastery over stressful experiences, which significantly diminishes feelings of fear and helplessness, thereby promoting emotional resilience.

An important factor influencing the effectiveness of storytelling interventions was the child's developmental stage, particularly age. Younger children in the preoperational stage of cognitive development demonstrated greater benefit from storytelling interventions. Developmental theories by Warner (2022) and recent updates by Fenikowski & Tomaszek (2022) suggest that young children, who are still developing abstract thinking skills, rely heavily on concrete and sensory-rich experiences such as visual storytelling and puppet shows to make sense of their world. These sensory modalities facilitate emotional processing and cognitive organization, making storytelling particularly effective for preschool-aged patients.

Moreover, previous hospitalization experiences significantly impacted anxiety outcomes. Children who had been previously hospitalized exhibited greater reductions in anxiety levels compared to first-time patients. Familiarity with the hospital environment and routines may reduce uncertainty and perceived threat, enhancing the efficacy of storytelling interventions. This finding is consistent with the work of Subairi & Muhith (2024), who found that children with prior hospital exposure are generally less fearful and respond better to preparatory interventions such as storytelling.

Parental presence during storytelling sessions also emerged as a critical moderating factor. Studies consistently indicated that when parents were present

during the intervention, children exhibited lower levels of anxiety. This observation is supported by attachment theory, which posits that the presence of a secure attachment figure can act as a buffer against stress (Méndez, 2022). Parental involvement not only provides comfort but also enhances the therapeutic impact of storytelling by reinforcing the child's sense of security, as evidenced by Linnard-Palmer (2024).

Overall, this systematic review provides robust evidence supporting storytelling-based nursing communication as a valuable and effective intervention for reducing hospitalization anxiety in preschool children. The findings suggest that storytelling is most effective when interventions are developmentally tailored, sensitive to children's prior hospitalization experiences, involve parental participation, and utilize age-appropriate narrative formats. By empowering children to process their emotions, gain a sense of control, and diminish fear during hospitalization, storytelling-based communication emerges as a vital tool in pediatric nursing care. Its consistent success across diverse clinical settings and cultural contexts emphasizes its potential to become a standardized practice for managing emotional distress in young hospitalized children.

STRENGTHS AND LIMITATIONS

The studies included in the review were generally of moderate to high quality, with most reporting significant reductions in anxiety. However, limitations were noted in some studies, such as small sample sizes and the absence of blinding, which could introduce bias. Furthermore, the diversity in intervention types (e.g., picture books, puppets, digital media) and the lack of standardized protocols across studies make it difficult to draw definitive conclusions about the most effective form of storytelling. Future studies should focus on refining intervention protocols and ensuring methodological rigor, such as including larger sample sizes and employing randomized controlled trial designs to strengthen the evidence base.

IMPLICATIONS FOR PRACTICE

The findings of this review suggest that storytelling-based nursing communication is a valuable tool for addressing the emotional needs of

preschool children during hospitalization. Given its demonstrated effectiveness in reducing anxiety, storytelling could be incorporated as a standard nursing practice in pediatric care settings. Nurses can be trained to use various storytelling techniques, such as puppets, digital stories, or picture books, depending on the child's age, preferences, and the hospital environment. Additionally, integrating parental involvement into these interventions may enhance their effectiveness.

CONCLUSION

This systematic review provides robust evidence for the effectiveness of storytelling-based nursing communication in alleviating hospitalization anxiety in preschool children. The positive outcomes observed across studies highlight the potential of storytelling as a simple yet powerful tool to enhance pediatric care. By addressing the emotional and psychological needs of young patients, storytelling helps improve their overall hospital experience, potentially leading to better recovery outcomes and a more supportive caregiving environment. Future research should continue to explore the optimal delivery methods and refine intervention protocols to maximize the impact of this promising approach.

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