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The Effect of Expressive Writing Therapy on Fear Scores in Hospitalized Children Aged 10-12 Years

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ABSTRACT

Introduction: *Fear is one of the impacts of hospitalization commonly experienced by children. The fear experienced by children during hospitalization can contribute to the development of other psychological problems, therefore, nurses are expected to implement interventions to address children's fear during hospitalization. This study aimed to analyze the effect of expressive writing on the level of fear among school-aged children undergoing hospitalization.*
Methods: *This study utilized a pre-experimental one-group pretest-posttest design. Purposive sampling was used to recruit 25 hospitalized children aged 10–12 years. The Children's Fear Measurement Scale (CFS) was employed to measure the children's fear levels. The expressive writing intervention was administered over three consecutive days. Fear scores were assessed on the first day prior to the intervention and re-evaluated on the third day after the intervention was completed. Data were analyzed using the Wilcoxon signed-rank test.*
Results: *Fear scores decreased from a mean of 1.60 before the intervention to 0.48 after the three-day expressive writing therapy, with a statistically significant difference on the Wilcoxon signed-rank test (p <0.00 1).*
Conclusions: *The findings suggest that expressive writing is a promising, non-invasive adjunctive intervention for alleviating hospitalization-induced fear in school-aged children. However, due to the absence of a control group, future studies utilizing randomized controlled designs are warranted to definitively establish its efficacy.*

Introduction

Hospitalization can evoke unpleasant feelings in children due to the restricted physical activities they experience during this period (Roswita et al., 2024). Another common negative emotion experienced by children undergoing hospitalization is fear. This fear originates from a variety of sources. Children report feeling afraid of their illness and perceiving that the hospitalization process will cause them pain (Öztürk Şahin & Topan, 2019). Furthermore, fear can be triggered by medical treatments involving needles (Gökoğlu & Sukut, 2025; McLenon & Rogers, 2019). Other studies have similarly identified hospital medical procedures as a primary cause of fear among children (Köle & Yildiz, 2025). Additionally, the unfamiliar hospital environment can serve as another source of anxiety and fear for these pediatric patients (Öztürk Şahin & Topan, 2019).

The consequences of unmanaged fear during hospitalization extend far beyond immediate emotional distress. High levels of fear can exacerbate psychological trauma and contribute to the development of long-term psychological problems (Köle & Yildiz, 2025). Clinically, fear significantly impairs a child's ability to cope with medical procedures. This psychological distress

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often leads to increased pain perception, physiological instability, and a marked lack of cooperation during nursing care. Such resistance not only prolongs procedural times but also hampers the overall recovery process and negatively impacts the quality of care provided by healthcare professionals. Therefore, addressing children's fear is a critical nursing priority.

To mitigate this distress, nurses play a crucial role in implementing non-pharmacological interventions. Several techniques have been shown to be significantly associated with fear reduction in pediatric patients, including virtual reality (VR) distraction (Gülduran & Özalp Gerçeker, 2026), watching animated films and playing games (Gökoğlu & Sukut, 2025), storytelling (Dewi et al., 2021) and drawing (KAHRIMAN et al., 2026). However, these existing interventions often have practical limitations. For instance, VR and digital gaming require specialized, expensive equipment and technical maintenance, which may not be feasible in resource-limited hospital settings. Similarly, storytelling and guided play demand significant time and continuous active engagement from nursing staff, who frequently face heavy clinical workloads.

Expressive writing therapy (EWT) emerges as a highly viable alternative to address these practical limitations. Theoretically rooted in emotional processing, writing serves as a therapeutic medium that allows children to safely articulate and process complex feelings associated with their illness and hospitalization (Altay et al., 2017; Pennebaker & Chung, 2011). Compared to other interventions, EWT offers clear clinical advantages: it is a simple, low-cost intervention that requires minimal equipment, only paper and a pen, making it exceptionally easy to implement in any hospital setting. Furthermore, it supports children's emotional processing by allowing them to express their fears independently, which aligns well with the cognitive and developmental capabilities of school-aged children.

Despite the established benefits of EWT in clinical and non-clinical settings, a significant gap remains in the literature. Previous studies have predominantly focused on the efficacy of EWT in reducing anxiety and depression among pediatric populations, such as children undergoing cancer treatment or those in conflict with the law (Greenbaum & Javdani, 2017; Hafizah & Sulistyarini, 2024) as well as boosting positive emotions in adults (Ren et al., 2025). However, expressive writing has not yet been adequately evaluated as an emotionally focused supportive nursing intervention specifically targeting hospitalization-related fear in school-aged children. Addressing this relatively underexplored outcome is crucial for expanding the repertoire of accessible pediatric nursing interventions. Therefore, this study aims to analyze the effect of expressive writing therapy on fear levels in school-aged children undergoing hospitalization.

Methods

This study was conducted using a pre-experimental one-group pretest-posttest design from May 22 to June 26, 2024. This approach was chosen to minimize environmental confounding variables, as evaluating a single group ensures all participants are exposed to the exact same hospital setting and care protocols.

The participants were pediatric patients aged 10 to 12 years undergoing hospitalization at R.W. Mongisidi Hospital in Manado, North Sulawesi. A purposive sampling technique was utilized for participant selection. The inclusion criteria were: a) school-aged children (10-12 years old) capable of writing; b) hospitalized children in clinically stable condition; c) children whose parents provided informed consent for their participation; and d) children identified as experiencing fear based on initial screening results. Conversely, the exclusion criteria included: a) children with neurodevelopmental disorders; b) postoperative patients; c) children with injuries to both hands; and d) children who had difficulty communicating or exhibited withdrawn

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behavior. The sample size was determined using Federer's formula, yielding a total of 25 respondents.

Participants were recruited through a non-probability sampling approach based on predefined inclusion and exclusion criteria. Data collection was conducted in-person within the pediatric inpatient ward while the children were undergoing hospitalization. To ensure consistency and accuracy, the data were collected directly by the researcher using a standardized fear assessment protocol.

The data collection time frame spanned three days for each participant, with fear scores measured twice. The initial baseline measurement (pre-test) was conducted on the first day prior to the expressive writing intervention. The second measurement (post-test) was recorded on the third day, following the completion of the intervention. No financial incentives were provided to the participants or their parents. Furthermore, to protect participant privacy, all collected data were recorded anonymously.

Children's fear levels were measured using the Children's Fear Measurement Scale (CFS), a tool adapted from the pre-existing Children Anxiety Scale (McMurtry et al., 2011). For this study, the Indonesian version of the CFS, officially translated by the Language Center of Universitas Indonesia, was utilized. The CFS consists of five distinct facial expressions representing varying degrees of fear. Responses are scored on a 5-point Likert scale ranging from 0 (no fear) to 4 (extreme fear), with lower scores indicating lesser degrees of fear. The psychometric properties of this instrument have been previously established in populations of hospitalized children in Indonesia (Dewi et al., 2021). Specifically, the tool demonstrated a construct validity of 0.73 and strong internal consistency, with a Cronbach's alpha of 0.76, confirming its validity and reliability for use in this research.

The intervention implemented in this study was expressive writing, based on the paradigm developed by Pennebaker(Pennebaker & Chung, 2011). This intervention was administered for three consecutive days during the daytime. On the first day, prior to the intervention, a pre-test was conducted to assess the children's baseline fear levels. Subsequently, a post-test was administered on the third day, specifically 10 minutes after the final expressive writing session concluded. During the implementation, each participant was provided with a notebook and writing materials. The intervention was structured into the following daily stages:

- Day 1 (Stage 1): The researcher utilized a therapeutic approach to establish rapport and instructed the children to write freely.
- Day 2 (Stage 2): The children were asked to write expressively about all unpleasant feelings, thoughts, or experiences they encountered during their hospitalization. This session lasted for approximately 20 minutes.
- Day 3 (Stages 3 and 4): The researcher evaluated the participants' emotional responses to the writing process, specifically assessing whether they experienced any distress or discomfort.

Data Analysis

The types of analysis in this study included univariate and bivariate analysis. Univariate analysis was used to present the frequency distribution, mean, and data distribution on the variables of demographic characteristics of children and parents, as well as fear scores before and after the intervention. Furthermore, bivariate analysis was performed to see the difference in pre-test and post-test fear scores in the group using the Wilcoxon test, because the data were not normally distributed based on the Kolmogorov-Smirnov test ($p = 0.00$). All tests used a significance level of 95% ($\alpha < 0.05$), with results considered statistically significant if the p-value was < 0.05. Statistical analysis was performed using computer analysis. Statistical analysis was performed using SPSS software version 27.

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Results

A total of 25 hospitalized children participated in this study. The mean age of the pediatric participants was 11.20 years, with the majority being male (56%). The majority of the children (68%) had a prior history of hospitalization. The most frequent clinical diagnosis was viral infection (40%), and all participants had an intravenous (IV) line present during the study. The demographic characteristics of the participants are presented below:

Table 1. Demographic Characteristics of the Participants

Variable	Mean±SD	Frequency (Percentage)
Age	11,20±0,86	
Gender		
Male		14 (56)
Female		11 (44)
History of Hospitalization		
Yes		17 (68)
No		8 (32)
Diagnosis		
Asthma		3 (12)
Viral infection		10 (40)
Dengue Hemorrhagic Fever		2 (8)
Upper respiratory tract infection		7 (28)
Dyspepsia		3 (12)
Caregiver during hospitalization		
Mother		16 (64)
Father		4 (16)
Both parents		4 (16)
Caregiver		1 (4)
IV-Line present		
Yes		25 (100)
No		0

Prior to the expressive writing intervention, baseline fear scores were assessed on the first day. Following the completion of the three-day intervention, the fear scores were reassessed. The distribution of the children's fear scores pre- and post-intervention is presented below,

Table 2. Children's Fear Scores Before and After the Intervention (n = 25)

Fear Score	Mean	Median	Standar Deviation	Min-Max
Pre-test	1,60	2	0,707	0-3
Post-test	0,48	0	0,510	0-1

Prior to hypothesis testing, the normality of the difference between the pre-test and post-test fear scores was evaluated using the Kolmogorov-Smirnov test. The results indicated that the data were not normally distributed ($p= 0.00$). Consequently, the non-parametric Wilcoxon signed-rank test was utilized to determine the effectiveness of the expressive writing therapy. The results of the Wilcoxon signed-rank test revealed a p-value of < 0.001 ($p < 0.05$). This finding demonstrates that the expressive writing intervention significantly reduced the fear scores of the

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pediatric patients undergoing hospitalization. The results of this analysis are presented in the following table,

Table 3. The Effect of Expressive Writing Therapy (EWT) on Children's Fear Scores (n = 25)

Fear Score	Median (Min-Max)	p
Pre-test Post-test	2 (0-3)	0,00

Furthermore, this study examined the potential association between the children's demographic characteristics and their post-intervention fear scores. Based on these findings, none of the demographic variables demonstrated a statistically significant association with the children's fear scores following the intervention. The results of this analysis are presented in the following table,

Table 4. Association between Demographic Characteristics and Post-Intervention Fear Scores (n = 25)

Variabel	**n**	**p**	**r**	**Mean±SD**
Age [a]		0,05	- 0,39	11,20±0,86
Gender [b]		0,56		
Male	14			
Female	11			
History of Hospitalization[b]		0,89		
Yes	17			
No	8			
Caregiver during hospitalization[b]		0,57		
Mother	16			
Father/caregiver	9			

[a] Analyzed using the Spearman rank correlation test
[b] Analyzed using the Mann-Whitney U test

Discussion

Pre-Intervention Fear Score

In this study, the mean pre-intervention fear score was 1.60. This baseline score is comparable to previous findings that utilized the same instrument among hospitalized school-aged children (Dewi et al., 2021). The fear experienced by school-aged children during hospitalization often stems from various sources, including medical treatments involving invasive procedures, absence from school activities, separation from family, and anxiety toward healthcare professionals (Suminar et al., 2017). In the present study, the children's fear was likely triggered by the invasive medical procedures they underwent, given that all participants had an intravenous (IV) line inserted during their hospitalization. Assessing children's baseline fear scores is essential to help children mitigate their fear through appropriate nursing interventions, ultimately ensuring they are more prepared and cooperative during medical treatments (Köle & Yildiz, 2025)

Post-Intervention Fear Score

Following the intervention, the mean fear score in this study decreased to 0.48. Notably, this post-intervention score is lower than the results of a previous study that implemented storytelling to alleviate children's fear, which reported a reduction from 1.61 to 0.58 (Dewi et al., 2021). To provide a more comprehensive profile of the children's condition after the therapy,

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this study further analyzed whether their background characteristics influenced their final fear levels. Based on the demographic analysis, age did not demonstrate a statistically significant association with the children's post-intervention fear scores. This finding is consistent with previous studies (Dewi et al., 2021; Hedén et al., 2020), indicating a uniform distribution of post-test scores among the participants aged 10-12 years. In younger populations, fear often manifests differently, such as nightmares, resulting in sleep reluctance and frequent nocturnal awakenings (Hockenberry et al., 2019).

Similarly, this study found no significant association between a history of hospitalization and the children's post-intervention fear scores, corroborating previous research (Hedén et al., 2020). Illness and hospitalization represent one of the primary crises experienced by children (Hockenberry et al., 2019) placing them in an unfamiliar environment. Developmentally, children aged 5-6 years are already capable of comprehending illness and unpleasant events from previous hospitalizations. In the present study, the majority of the pediatric participants had a prior history of hospitalization, with a mean age of 11.20 years. However, despite this prior exposure, their past experiences did not directly influence their fear responses following the administration of the expressive writing intervention. This confirms that the low post-intervention fear scores were independent of the children's previous hospital admissions.

Effectiveness of Expressive Writing Therapy

The statistical analysis demonstrated that the three-day expressive writing intervention was significantly associated with a reduction in fear scores among hospitalized school-aged children. The underlying mechanism of this effectiveness can be attributed to the role of expressive writing in emotion regulation. By writing expressively, children are facilitated in recognizing and connecting with their emotions, allowing them to process unpleasant experiences such as fear safely (Mortari et al., 2024)). Expressive writing allows individuals to manage their emotions by confronting emotional experiences, habituating to distress, and ultimately making sense of their situation. This cognitive and emotional processing subsequently builds the child's capacity to cope with adversity, contributing to improved mental well-being (Zhang et al., 2023) In clinical settings, such as among oncology patients, writing therapy has been shown to encourage emotional reflection, enabling patients to overcome specific treatment-related fears, including the anxiety associated with blood draws and invasive procedures (Rapoport et al., 2025).

Furthermore, in pediatric care, expressive writing functions beyond just cognitive processing; it serves as a form of creative expression and play therapy. Hockenberry et al 2019) assert that creative expression activities empower hospitalized children to freely articulate their thoughts and feelings in a highly restrictive environment. Engaging in these enjoyable, play-like processes can significantly help children manage their fear of medical procedures (Özsavran et al., 2025). Writing therapy not only acts as a safe emotional outlet but also enhances positive feelings, thereby directly mitigating negative psychological experiences during medical treatment (Zhu et al., 2020)

Ultimately, the findings of this study establish that expressive writing therapy is a highly effective, non-pharmacological nursing intervention for managing hospitalization-induced fear. Implementing interventions aimed at alleviating fear significantly contributes to increased pediatric compliance with medical treatments and fosters higher satisfaction with healthcare services (Karataş et al., 2025). Given that this intervention is practical, low-cost, and requires minimal equipment, it can be considered a viable adjunctive option in clinical pediatric nursing. However, considering that research on expressive writing for hospitalization fear remains limited and this study exclusively utilized a one-group design without a control group, these initial findings should be interpreted with caution. While pediatric nurses can safely facilitate this

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accessible intervention for hospitalized school-aged children, future studies employing randomized controlled trials (RCTs) with larger sample sizes are necessary to definitively establish its clinical efficacy.

Conclusion

This study demonstrates that a three-day expressive writing therapy (EWT) intervention significantly reduces fear scores among hospitalized school-aged children. Consequently, EWT can serve as a highly viable and practical nursing intervention strategy for managing pediatric fear in clinical settings.

This study has several limitations, primarily its relatively small sample size and the absence of a control group. Future studies are strongly recommended to employ a randomized controlled trial (RCT) design to more robustly evaluate the effectiveness of this intervention. Furthermore, the present study solely measured the overall impact of EWT on children's fear during hospitalization, without specifically analyzing their experiences with invasive procedures, which are a known primary source of pediatric fear in hospital settings.

Ethics approval and consent to participate

This study protocol was reviewed and approved by the Health Research Ethics Committee (KEPPK) of STIK Sint Carolus (Approval Number: 087/KEPPKSTIKSC/VI/2024). Informed consent was obtained from the parents on behalf of the pediatric participants. Prior to obtaining consent, the researcher comprehensively explained the study's objectives and procedures to both the children and their parents. Furthermore, all participant data were anonymized and strictly maintained for confidentiality.

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