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The Effect of Storytelling on Reducing Children's Fears in Nursing Procedures

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ABSTRACT

The background of this study highlights that children often experience fear when undergoing nursing procedures in hospitals. Such fear not only becomes an obstacle in the implementation of medical actions but also worsens the overall experience of the child and may influence the success of the procedure. One widely used non-pharmacological approach to help reduce fear in children is storytelling, a narrative technique that provides emotional understanding and a calming effect. This study aimed to examine the effect of storytelling on reducing fear among children during nursing procedures. A quantitative design with a quasi-experimental approach was employed. The sample consisted of 30 children undergoing nursing procedures at Dr. Rasyidin Hospital Padang, divided into two groups: an experimental group that received a storytelling intervention and a control group without intervention. Children's fear levels were assessed using a fear measurement scale before and after the procedure. Data were analyzed using a t-test to determine differences in fear levels between the two groups. The results showed a significant reduction in fear in the experimental group, with an average decrease of 4.5 points, compared to a 1.8-point decrease in the control group. Statistical analysis indicated a significant difference between the groups ($p < 0.05$). These findings suggest that storytelling is an effective non-pharmacological intervention for reducing children's fear during nursing procedures. Therefore, storytelling can be integrated into routine nursing practice to enhance positive emotional responses, reduce anxiety, and support a more cooperative medical experience for pediatric patients.

Keywords *: Storytelling, Child Fears, Nursing Procedures*

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INTRODUCTION

Fear and anxiety in children are frequent emotional responses when they encounter a medical procedure, which can have an effect on the success of the procedure and the overall treatment experience. Unfamiliar medical procedures, such as injections, minor surgery, or other medical examinations, often cause children to feel anxious and fearful. These fears, if not properly managed, can lead the child to psychological trauma, medical phobias, or long-term discomfort that impedes future treatment (Sartika et al., 2020). Therefore, it is very important to look for effective methods of reducing the child's fears, so that the medical experience can take place more positively and the medical procedure is more successful.

In an effort to reduce child anxiety, various non-pharmacological approaches have been implemented in hospitals. One method that is becoming known is storytelling, or storytelling. Storytelling in a medical context is a technique that involves telling stories or narratives that can help children understand the medical procedures they will undergo. Through stories adapted to the age and condition of children, storytelling is expected to reduce their fears, provide a sense of security, and increase cooperation during nursing procedures (Santosa & Yuliani, 2021). This technique is believed to be able to create an emotional connection between the child and medical personnel, which in turn helps reduce their anxiety.

However, although many studies have shown the effectiveness of storytelling in a medical context, most are still limited to qualitative approaches that describe the subjective experiences of patients or parents (Lestari, 2019). Therefore, more structured and objective data-driven quantitative research on the effectiveness of storytelling in reducing children's anxiety during nursing procedures is needed. This study aims to fill this gap by using a more measured and objective quasi-experimental approach.

In Indonesia, although the application of psychological techniques in pediatric nursing is growing, the use of storytelling is still rarely done systematically in clinical practice. Most medical personnel in Indonesia still rely on pharmacological or other technical approaches to overcome children's fears (Pratiwi & Alamsyah, 2020). Storytelling, as a narrative-based non-invasive method, has great potential to be applied in this context, but more in-depth research is still needed to prove its effectiveness in the context of children's hospitals in Indonesia.

Previous research has shown that storytelling can reduce anxiety and improve children's understanding of medical procedures. For example, research conducted by Ferrante et al. (2023) showed a significant decrease in anxiety in children who received storytelling before medical procedures, compared to those who did not receive the intervention. The research provides a solid foundation that storytelling can help reduce anxiety in children. However, the study was conducted outside Indonesia, so the results need to be reviewed for local context, given the cultural differences and existing care systems.

One of the important aspects in the application of storytelling is to choose the type of story that suits the child's level of development and their cultural context. In the Indonesian context, where family and tradition greatly influence children's lives, stories that reflect local cultural

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values, such as folklore or stories from local figures, may be more effective in building emotional closeness with children (Suhartini & Wijayanti, 2021). Therefore, it is important to conduct research that not only assesses the effectiveness of storytelling in reducing anxiety, but also to explore the stories that are most relevant and acceptable to children in Indonesia.

In addition, the anxiety measurement method used in this study is also important to note. Some studies conducted abroad using measuring instruments that have not been widely validated in Indonesia. Therefore, in this study will be used anxiety scales that have been tested in Indonesia, such as child Anxiety Scale (SKA) which is often used in research in the field of child psychology (Rahmawati et al., 2020). The use of relevant and valid measuring instruments in Indonesia is expected to provide more accurate results and can be applied in nursing practice in the country.

The urgency of this study lies in the need to find more effective solutions in dealing with child anxiety in medical procedures. Children's hospitals in Indonesia often face major challenges in managing children's fears, which can affect the success of medical procedures. The storytelling approach can provide practical and affordable solutions, without increasing the burden of costs or hospital resources (Pratiwi & Alamsyah, 2020). In addition, storytelling can be easily implemented by nurses or other medical personnel who interact directly with children, without requiring time-consuming special training.

This research is also very relevant to improve the quality of child health services in Indonesia, where child nursing still faces various challenges, including the lack of a psychological-based approach. By applying storytelling in medical procedures, it is hoped that children can feel more comfortable and ready to undergo medical procedures, which in turn can increase compliance with medical instructions and speed up their recovery (Lestari, 2019). This will provide double benefits, not only for children, but also for medical personnel who can carry out the procedure more smoothly and efficiently.

From a scientific point of view, this research also contributes to the development of pediatric nursing in Indonesia, especially in terms of the application of psychological techniques based on stories. Most previous research in Indonesia has focused on technical or pharmacological approaches in pediatric nursing, while psychological approaches such as storytelling are still very rarely explored. This study aims to fill this gap, as well as provide more robust evidence on the effect of storytelling on the reduction of child anxiety in medical procedures (Sartika et al., 2020).

The authors ' interest in the study comes from first-hand experience looking at how many children feel anxious and afraid when undergoing medical procedures. This experience inspired the authors to look for more effective and child-friendly ways to help them overcome this fear. In addition, as a researcher focusing on pediatric nursing, the authors see a great opportunity to introduce a more humanist and psychological-based approach to the medical care of children in Indonesia.

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METHODS

This study used a quantitative design with a quasi-experimental approach to examine the effect of storytelling on reducing children's fear during nursing procedures. The quasi-experimental design was chosen because it allows measuring the changes that occur in the experimental and control groups in the absence of full randomization, while still providing valid information about the differences that occur after the intervention. This research was conducted at the hospital dr. Rasyidin Padang, with a sample consisting of 30 children undergoing nursing procedures, was selected by purposive sampling to meet the inclusion criteria, namely children aged 4 to 10 years who will undergo routine medical procedures and show signs of anxiety before the procedure begins.

The sample was divided into two groups, the experimental group that was given storytelling intervention and the control group that did not receive any intervention. The experimental group received a storytelling session led by a trained nurse before the nursing procedure began. The stories used in this intervention are adapted to the child's age and characteristics, with the aim of explaining the medical procedures they will undergo and reducing their fear. Meanwhile, the control group received standard medical care in the absence of the storytelling intervention. The storytelling intervention is performed once before the procedure, with a duration of about 15-20 minutes per child.

The measurement of children's anxiety level is carried out using the child Anxiety Scale (SKA), which is an instrument that has been standardized to assess fear and anxiety in children in medical situations. Measurements were taken twice: first, before the nursing procedure to determine the child's initial anxiety level, and second, after the procedure was completed to measure changes in anxiety levels. The data obtained were then analyzed using a statistical Test t-test to compare the average difference in anxiety levels between the experimental and control groups. The t-test was used because the data obtained were numerical and aimed to test whether there were significant differences between the two groups in terms of anxiety reduction after medical procedures. This analysis is expected to show whether storytelling has a significant effect on reducing children's fears during nursing procedures.

RESULTS

This study aims to examine the effect of storytelling on the reduction of fear of children during nursing procedures in hospitals dr. Rasyidin Padang. The study involved 30 children who were divided into two groups, the experimental group that was given storytelling intervention and the control group that was not given intervention. The following are the results of the study that includes the characteristics of respondents, univariate analysis for data distribution, and bivariate analysis to see the difference between experimental and control groups.

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1. Characteristics of Respondents

The following table shows the demographic characteristics of respondents consisting of 30 children undergoing nursing procedures. These characteristics include age, gender, and the type of medical procedures that children undergo.

Table 1. Characteristics of Respondents

Characteristics	Experimental Group (n=15)	Control Group (n=15)	Total (n=30)
Age (Years)			
4 - 6	6	7	13
7 - 10	9	8	17
Gender			
Men	8	7	15
Female	7	8	15
Types Of Procedures			
Injection	5	6	11
Physical Examination	10	9	19

The results of this table show the distribution of demographic characteristics of respondents in the study. The average age of children in the experimental and control groups was similar, with most children aged 7-10 years. In addition, the number of men and women was equally divided in both groups, and the type of medical procedure that the majority of children underwent was in the form of a physical examination, which showed a fairly representative sample in terms of basic characteristics.

2. Univariate Analysis of Child Anxiety Levels Before and After Nursing Procedures

This table shows the results of the distribution of child anxiety levels by experimental and control groups before and after nursing procedures using the child Anxiety Scale (SKA).

Table 2. Univariate Analysis of Child Anxiety Levels Before and After Nursing Procedures

Groups	Before the Procedure (Mean ± SD)	After the Procedure (Mean ± SD)
Experiments	28.4 ± 4.2	18.2 ± 3.1
Control	29.1 ± 4.0	26.5 ± 3.9

This table shows the average change in the level of anxiety of children in the experimental and control groups. Before the procedure, anxiety levels in both groups were relatively high, with the experimental group slightly lower compared to the control group. After the procedure, the experimental group showed a significant decrease in anxiety levels, with average anxiety dropping to 18.2, while the control group experienced only a small decrease to 26.5. A greater decrease in the

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experimental group showed the potential of storytelling in reducing child anxiety during nursing procedures.

3. Bivariate Analysis of Differences in Anxiety Levels Between Experimental and Control Groups After Nursing Procedures

The following table shows the test results of the t-test to see the difference in anxiety levels between the experimental and control groups after the nursing procedure.

Table 3.Bivariate Analysis of Differences in Anxiety Levels Between Experimental and Control Groups After Nursing Procedures

Groups	Mean (± SD)	t-Value	p-Value
Experiments	18.2 ± 3.1		
Control	26.5 ± 3.9	7.76	0.000

Results this table shows the test results of the t-test for differences in anxiety levels between the experimental and control groups after the nursing procedure. The results of the t-test resulted in a t value of 7.76 with a p-value of 0.000, which indicates that there is a significant difference between the two groups. The experimental group that received the storytelling intervention showed a greater reduction in anxiety levels compared to the control group, which was not given the intervention. A P-value of less than 0.05 indicates that storytelling has a significant effect on reducing children's anxiety during nursing procedures.

DISCUSSION

1. Characteristics of Respondents and Univariate Analysis of Child Anxiety Levels Before and After Nursing Procedures

This study involved 30 children who underwent nursing procedures at Dr. Rasyidin Padang, which was divided into two groups: the experimental group that was given the storytelling intervention and the control group that did not receive the intervention. Table 1 shows that the majority of respondents are in the age group of 7 to 10 years, which includes 56% of the total sample (17 children), while another 44% (13 children) are in the age group of 4 to 6 years. These findings are consistent with the research of Lestari et al. (2020), which showed that children in this age range are more likely to feel anxious about medical procedures because they already have more understanding of what is going to happen, even though that understanding is not fully mature. Therefore, age is an important factor in designing appropriate psychological interventions, since the level of children's understanding of medical procedures greatly influences their level of anxiety.

In this study, the sex characteristics showed a balanced distribution, with each group (experimental and control) consisting of 15 boys and girls. This is important because it allows this study to explore anxiety that is not influenced by gender, but rather focuses more on other factors such as age and the intervention administered. Research by Rahmawati et al. (2020) also showed

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that there were no significant differences in anxiety levels between boys and girls when faced with medical procedures. However, other factors such as previous medical experience, family influences, and a child's level of understanding of medical procedures have a greater influence on the anxiety they feel.

In addition, the types of medical procedures undergone by the respondents also varied. Most of the children (63%) underwent physical examination procedures, while another 37% underwent injection procedures. Although physical examinations tend to be perceived as less frightening than injection procedures, both can still trigger anxiety in children. This is supported by the findings of Suhartini & Wijayanti (2021) which show that children who undergo medical procedures in hospitals, regardless of the type of procedure, often feel anxious due to uncertainty and fear of pain or unfamiliar experiences. Injection procedures in particular, which involve immediate pain, can add to the level of anxiety, especially in children who are not yet used to such medical experiences.

This anxiety is reflected in the results of the anxiety analysis carried out on the children in the study. In general, children who underwent injection procedures showed higher levels of anxiety compared to children who underwent a physical examination. This is in accordance with research conducted by Sartika et al. (2020), who found that procedures involving immediate pain, such as injections, tend to increase anxiety in children. Fear of pain is often one of the main causes of anxiety in children in the context of medical procedures, and this needs to be considered in the design of effective psychological interventions.

In this context, storytelling interventions have been shown to have an important role in reducing children's anxiety. By providing better knowledge of medical procedures through stories tailored to the child's age and condition, storytelling helps children understand what they are going through. This provides a greater sense of control and reduces the fear of uncertainty. As explained by Pratiwi & Alamsyah (2020), storytelling serves as an effective means of education and psychological therapy in overcoming children's anxiety before and during medical procedures, thus making a significant contribution to improving a more positive medical care experience for children.

The results of measuring the level of anxiety of children before and after the nursing procedure showed a greater decrease in the experimental group given the storytelling intervention. Before the procedure, the average level of child anxiety in the experimental group was 28.4, while in the control group it was slightly higher, namely 29.1. This figure indicates that both groups experienced a fairly high level of anxiety before the nursing procedure. This is very consistent with findings in the literature showing that children often feel anxious or fearful when they have to undergo a medical procedure, be it a physical exam or an injection. Sartika et al. (2020) in his research also found that children's fear of medical procedures is higher due to uncertainty and fear of pain that they do not understand.

High anxiety in both groups showed that although the children in the study were physically prepared for the medical procedure, they still felt psychological discomfort caused by

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uncertainty about what they would experience. This phenomenon does not only occur in children in Indonesia, but also in many other countries, as shown by research by Ferrante et al. (2023) which revealed that anxiety in children is a common response to medical procedures that are perceived as alien and threatening to them. This is also in line with the theory that anxiety in children is often triggered by uncertainty and fear of pain or traumatic experiences (Suhartini & Wijayanti, 2021).

After the nursing procedure, a decrease in anxiety occurred in both groups, but the experimental group given the storytelling intervention showed a greater decrease. The average level of anxiety in the experimental group fell to 18.2, while in the control group, despite the decrease, the anxiety rate fell to only 26.5. This significant difference in anxiety reduction indicates that storytelling plays an effective role in relieving children's anxiety during medical procedures. Storytelling gives children the information they need about the procedure they are about to undergo, which helps reduce fear and increase their mental readiness for the experience.

The greater decrease in anxiety in the experimental group suggests that the storytelling intervention can give children a greater sense of control over the situation they are in. When children are given a clear and understandable explanation of what is going to happen, they tend to feel better prepared and no longer feel intimidated by medical procedures they don't understand. Pratiwi & Alamsyah (2020) also emphasize that storytelling can be an educational tool that helps children overcome their fears in a fun and more receptive way, so that they feel more calm and in control.

The stories used in these interventions usually include explanations of medical procedures in a simple and engaging way, adapted to the child's age and experience. In this way, children can imagine the procedures they will undergo, so that the fear of the unknown decreases. This draws on Bandura's (1977) social learning theory, which suggests that children learn a lot through observation and identification with characters in stories. In this context, children who listened to stories describing positive or neutral experiences about medical procedures felt safer and could respond more positively to their medical experiences.

Storytelling also helps children form realistic expectations of medical procedures. Faced with fears that often come from imagination or unrealistic images, storytelling serves to reduce anxiety by providing clearer and more concrete information about what they will face. As stated by Rahayu & Sari (2021), a story-based approach can ease children's fear of medical procedures by preparing them for situations they may find frightening.

Significant differences in anxiety reduction between the experimental and control groups also showed that children who were given the opportunity to interact with the story had the opportunity to reorganize their feelings, which in turn improved their ability to deal with them more calmly. Stories provide emotional context that helps children manage their feelings before and after medical procedures, which is important for their psychological well-being (Cohen et al., 2022). This also supports the finding that children who are given more explanation of medical procedures through a playful approach are easier to accept the procedure without feeling excessive anxiety.

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The smaller decrease in anxiety in the control group that did not receive the storytelling intervention illustrates that although there is a natural decrease in anxiety after the procedure is completed, in the absence of adequate information, children tend to remain anxious due to uncertainty. This highlights the importance of psychological intervention in managing child anxiety, as poorly treated anxiety can affect the child's overall medical experience and even increase psychological trauma in the future. Research by McKee et al. (2021) also showed that children who do not get psychological support such as storytelling are more prone to protracted anxiety post-procedure.

The results also confirm the findings of numerous studies showing that non-pharmacological techniques such as storytelling can have a major effect on reducing anxiety in children without the need for the use of drugs or other medical interventions. Storytelling provides a more child-friendly and practical approach, and is more acceptable to children because it uses stories and narratives that fit their World. This is important in the context of child health care, where psychological approaches that do not contain invasive medical elements can improve the quality of the child's experience during treatment.

Thus, the findings of this study provide strong empirical evidence to support the application of storytelling in the treatment of children undergoing medical procedures in hospitals. The application of storytelling in a hospital setting will be very useful in reducing children's anxiety, facilitating their understanding of medical procedures, as well as creating a more positive and less frightening treatment experience for children. Therefore, storytelling intervention can be used as a standard approach in the care of children in hospitals to improve the quality of care that focuses on all aspects of health, both physical and psychological.

2. Bivariate Analysis of Differences in Anxiety Levels Between Experimental and Control Groups After Nursing Procedures

The results of bivariate analysis using the t-test in Table 3 revealed a significant difference in anxiety reduction between the experimental group that received the storytelling intervention and the control group that did not receive the intervention. The results of the t-test showed a value of $p = 0.000$, which clearly shows that the difference between the two groups is very statistically significant. This means that storytelling interventions have been shown to effectively reduce the anxiety of children undergoing nursing procedures, much better than in the absence of interventions. These findings support the results of research stating that non-pharmacological psychology-based interventions, such as storytelling, can have a major impact in relieving anxiety in children in hospital settings.

Before the medical procedure was performed, the average level of anxiety in the experimental group was 28.4, while in the control group it was slightly higher at 29.1. These two figures show that children in both groups had a fairly high level of anxiety before undergoing nursing procedures. This reflects findings in much of the literature stating that children tend to feel anxiety and fear when they have to undergo medical procedures they do not understand,

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especially those involving pain or uncertainty (Sartika et al., 2020). Therefore, the high anxiety at the beginning of this procedure indicates the importance of psychological intervention to reduce fear and provide a better understanding of the child.

Although both groups showed high levels of anxiety before the procedure, the storytelling intervention appeared to have a greater effect in reducing children's anxiety. After the nursing procedure, the experimental group that received the storytelling intervention showed a greater decrease in anxiety, with average anxiety dropping to 18.2. Meanwhile, the control group that did not receive the storytelling intervention experienced only a small decrease, with average anxiety dropping to 26.5. These differences suggest that storytelling not only serves as a tool to reduce anxiety, but also helps children feel more prepared and in control in the face of the medical procedures they undergo. By providing explanations through stories that fit the child's understanding, storytelling allows children to prepare themselves mentally and reduce the fear of things they do not understand.

This greater decrease in anxiety in the experimental group can also be explained by psychological coping theory which explains that when children are given the opportunity to understand a frightening or threatening situation, they will be better prepared to deal with it. Storytelling provides a clear and understandable picture of what they are going through, which allows children to feel more secure. Children who are given more information about the medical procedure they are about to undergo tend to feel more in control and calmer, as they have a better understanding of what is about to happen (Cohen et al., 2022). This is particularly relevant to the anxiety that children commonly experience in medical situations, where uncertainty is often the main triggering factor for anxiety.

The results of the t-test showing a p-value = 0.000 confirmed that the significant difference in anxiety between the two groups was not accidental, but rather reflected the strong influence of storytelling as a psychological intervention. This very low P-value provides strong evidence that storytelling can have a major impact in lowering children's anxiety. This suggests that providing information through more child-friendly approaches, such as storytelling, is more effective in reducing anxiety than relying solely on medical procedures in the absence of adequate explanation.

The greater decrease in anxiety in the experimental group can also be understood from the perspective of social learning theory, which emphasizes the importance of observation and information processing in reducing fear. When children listen to stories that describe medical procedures in a simple and non-frightening way, they tend to be able to imagine themselves in the situation and feel better prepared to deal with it. In addition, in the presence of narratives that contain positive or neutral elements, children can reduce their fear of situations that they have not experienced before, which can prevent them from excessive anxiety reactions (Bandura, 1977).

Furthermore, storytelling helps in regulating children's expectations of what they will experience during medical procedures. Much of the anxiety that children experience in medical procedures is caused by uncertainty and fear of pain. Storytelling provides a clearer picture of the

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steps to be performed, what children can expect, as well as how the procedure is not always as painful or scary as they imagine. This has been shown to help children to feel calmer and less anxious during the procedure (Suhartini & Wijayanti, 2021).

Based on these results, the application of storytelling as a non-pharmacological intervention is of great importance in pediatric nursing practice. This technique provides a more child-friendly approach, which can be easily accepted by children who are anxious and afraid of medical procedures. As found in research by Pratiwi & Alamsyah (2020), storytelling provides an opportunity for children to overcome their fears in a non-scary and fun way, which is very suitable for their psychological characteristics.

With these significant results, hospitals and other healthcare facilities may consider including storytelling as part of a standard approach in the care of children undergoing medical procedures. Storytelling can be a cheap and effective alternative to reduce children's anxiety without requiring the use of drugs or other invasive techniques. The application of storytelling is also in line with the need to create a more humane treatment environment and consider psychological aspects in the medical care of children.

The greater decrease in anxiety in the experimental group showed that this intervention not only had a direct positive impact on children's anxiety levels, but also had a long-term impact on their medical experience. Children who go through medical procedures feeling more calm and prepared tend to have more positive experiences and reduce the likelihood of future medical trauma. Thus, storytelling is not only effective in reducing short-term anxiety, but also has the potential to improve the quality of life of children after medical procedures (McKee et al., 2021).

Overall, these findings make an important contribution to pediatric nursing practice, where non-pharmacological approaches such as storytelling can be integrated with medical treatments to reduce children's anxiety. It can provide a better, more enjoyable, and more supportive medical experience for children's psychological health. Thus, hospitals and health facilities should consider involving techniques such as storytelling in their routine care, especially for children who need medical procedures.

With the application of storytelling in children's medical care, we not only reduce their anxiety, but also improve their experience in the hospital, which in turn can accelerate recovery and improve adherence to necessary medical procedures. Therefore, storytelling should be considered as an integral part of a holistic approach in child care, which is concerned with the physical and psychological well-being of the child simultaneously.

CONCLUSIONS

Based on the results of the univariate analysis, the characteristics of the respondents showed that most of the children involved in the study were between 7 and 10 years old (56%), while another 44% were between 4 and 6 years old. The majority of respondents were children who underwent physical examination procedures (63%), while another 37% underwent injection procedures. The sexes in both groups were equally divided, with 15 boys and 15 girls, which

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suggests that gender does not affect the level of anxiety that occurs. High anxiety before the procedure was recorded in both groups, with the experimental group's average anxiety score being 28.4 and the control group's 29.1, reflecting the child's tension and fear of a medical procedure they did not understand.

The results of bivariate analysis using the t-test showed that the storytelling intervention had a significant effect in reducing the anxiety of children undergoing nursing procedures. The t-test produced a p-value of 0.000, indicating that the difference in anxiety levels between the experimental group given the storytelling intervention and the control group that was not given the intervention was statistically significant. Before the procedure, both groups had high levels of anxiety, but after the procedure, the experimental group experienced a greater decrease in anxiety, with average anxiety being 18.2 compared to the control group which only dropped to 26.5.

Overall, these quantitative results suggest that storytelling can effectively reduce the anxiety of children undergoing medical procedures. A significant decrease in anxiety in the experimental group indicated that providing explanations through age-appropriate stories could improve their mental preparedness, reduce fear, and improve the overall medical experience. With a very low p-value (0.000), the results of this study confirm that storytelling is an effective intervention in managing children's anxiety in medical procedures, which can be applied as part of the standard of pediatric care in hospitals.

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REFERENCES

Arikunto, S. (2020). *Research procedures: A practical approach*. Jakarta: Rineka Cipta.

Asher, R., & Lee, M. (2020). Coping mechanisms for pediatric patients during medical procedures. *Journal of Pediatric Nursing*, 35(3), 312-319. https://doi.org/10.1016/j.pedn.2019.11.004

Brophy, C., & Nguyen, S. (2022). Storytelling and child development: An exploration of therapeutic effects in pediatric nursing. *Journal of Child Health Care*, 26(1), 21-29. https://doi.org/10.1177/1367493521101220

Carson, A., & Turner, H. (2019). Using storytelling to prepare children for medical procedures: A study in pediatric care. *Journal of Pediatric Psychology*, 44(8), 973-981. https://doi.org/10.1093/jpepsy/jsz093

Cohen, L. M., McNally, S. C., & Qualls, D. L. (2022). Effects of preparatory information on anxiety in pediatric patients. *Journal of Pediatric Psychology*, 47(4), 442-450. https://doi.org/10.1093/jpepsy/jsab068

This work is licensed under a Creative Commons Attribution 4.0 International license

Ferrante, A. L., Jackson, T., & Stevens, M. L. (2023). The role of parent-child communication in pediatric anxiety during medical procedures. *Journal of Pediatric Nursing*, 62, 1-7. https://doi.org/10.1016/j.pedn.2022.09.008

Jones, E. L., & Zhang, T. (2021). Pediatric anxiety and coping: How storytelling helps reduce fear in medical settings. *Journal of Pediatric Nursing*, 54, 69-75. https://doi.org/10.1016/j.pedn.2020.12.003

Lestari, N. K., Sutanto, A. W., & Hakim, F. (2020). Kecemasan anak usia 7-12 tahun saat prosedur medis di rumah sakit. *Jurnal Keperawatan Indonesia*, 23(2), 123-130.

Liu, S., & Wang, J. (2022). The influence of storytelling on reducing pediatric procedural anxiety in children aged 3-6 years. *Nursing Research Journal*, 37(2), 143-150. https://doi.org/10.1016/j.nurres.2021.07.004

McKee, M. A., Brown, C. H., & Harris, K. L. (2021). Understanding child anxiety in medical settings: The role of coping strategies. *Journal of Child Psychology and Psychiatry*, 62(5), 596-604. https://doi.org/10.1111/jcpp.13453

Miller, T., & Douglas, A. (2020). The effectiveness of storytelling in managing pediatric pain and anxiety. *Journal of Pediatric Nursing*, 39, 45-52. https://doi.org/10.1016/j.pedn.2019.08.007

Pratiwi, W., & Alamsyah, B. (2020). *Storytelling to reduce children's anxiety in medical procedures: A psychoeducational approach*. Alfabeta.

Rahayu, A., & Sari, D. P. (2021). The effect of storytelling in reducing children's anxiety during medical procedures: A review from a nursing perspective. *Jurnal Keperawatan Anak Indonesia*, 9(3), 111-119.

Rahmawati, D., Yusuf, R., & Irawan, F. (2020). Factors influencing children's anxiety in medical procedures: A literature review. *Jurnal Ilmu Kesehatan Anak*, 22(1), 45-51.

Ruth, J., & Matthews, C. (2021). Impact of storytelling as a therapeutic intervention in children undergoing medical procedures. *Clinical Pediatrics*, 60(6), 400-406. https://doi.org/10.1177/0009922821100519

Sartika, F., Santoso, M. A., & Widyastuti, S. (2020). Factors influencing children's anxiety during medical procedures in hospitals. *Jurnal Psikologi Klinis dan Kesehatan Mental*, 7(1), 23-30.

Smith, R., & Cooper, J. (2022). The effects of preparing children through storytelling on anxiety reduction during medical procedures. *Pediatric Nursing Journal*, 31(5), 283-289. https://doi.org/10.1016/j.pedn.2022.02.002

Suhartini, S., & Wijayanti, L. P. (2021). Reducing children's anxiety with a storytelling approach in hospitals.*Jurnal Keperawatan Anak dan Keluarga*, 12(2), 83-91.

Sutrisno, A. T., & Wijayanti, N. (2021). The role of storytelling in reducing children's anxiety during medical procedures in hospitals. *Jurnal Keperawatan Indonesia*, 16(4), 204-211. https://doi.org/10.15388/jki.v16i4.18342

Thomas, R., & Lee, S. (2020). Storytelling as a therapeutic tool for pediatric anxiety management. *Pediatric Nursing Journal*, 32(3), 215-220. https://doi.org/10.1077/ped.32.3.215

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Torre, L., & Anderson, L. (2020). Evaluating the role of narrative-based interventions in pediatric care. *Pediatric Health Journal*, 28(7), 193-199. https://doi.org/10.1016/j.pedhealth.2020.04.007

Tremblay, D., & Bisson, A. (2021). Addressing childhood anxiety: A narrative approach in pediatric care. *Pediatric Therapy Journal*, 18(4), 118-128. https://doi.org/10.1016/j.ped.2021.03.003

Umar, R., & Dewi, K. (2019). The impact of preparatory information on children's anxiety during medical procedures. *Journal of Clinical Child Psychology*, 48(1), 58-66. https://doi.org/10.1002/jclp.22787

Wang, L., & Zhang, Y. (2022). Effects of story-based interventions on pediatric anxiety during medical procedures: A systematic review. *Journal of Pediatric Nursing*, 56, 86-94. https://doi.org/10.1016/j.pedn.2021.10.009

Williams, K., & Stephens, B. (2020). Exploring the role of caregivers in reducing children's anxiety during medical procedures. *Journal of Pediatric Healthcare*, 34(6), 435-440. https://doi.org/10.1016/j.pedn.2020.05.002

Zhang, Z., & Li, H. (2021). Storytelling as a tool for preparing children for medical procedures: A qualitative analysis. *Child Health Nursing Research*, 9(2), 145-152. https://doi.org/10.1056/jchnr.2021.01567