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## Providing Puzzle Playing Therapy with Anxiety Children Due to Hospitalization in Children with Diarrhea in Hospital

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### ABSTRACT

Children with diarrhea who are undergoing treatment in hospital (hospitalization) will usually cause anxiety for the child. The role of nurses has a big role in controlling anxiety by reducing anxiety, namely play therapy by coloring pictures. Puzzle play therapy aims to make children happier or used as entertainment while being treated in hospital and can reduce the level of anxiety in children. Method: The design of this case study is descriptive in the form of a case study with a nursing process approach consisting of assessment, nursing diagnosis, planning, evaluation and documentation. The case study subjects were 2 cases of diarrhea with anxiety nursing problems at the Muhammadiyah Palembang Hospital in 2023. Data collection techniques were by observation, interviews and filling in research instruments for 3 days in the treatment room. Results: The results of the case study after implementing anxiety reduction nursing through puzzle playing therapy showed that the results of patient 1 and patient 2 showed that the level of anxiety decreased. What was found was that there was a significant relationship between Anxiety and the provision of puzzle playing therapy to children with Diarrhea. Discussion: Implementation of anxiety reduction nursing through puzzle playing therapy in Diarrhea patients with Anxiety problems can be applied because it is effective in reducing anxiety in children.

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## 1. INTRODUCTION

According to the World Health Organization (WHO 2017) in the world diarrhea is a global problem that causes death in children under 5 years of age, around 1.7 billion cases of diarrhea in children, especially toddlers and causes the death of 760,000 toddlers throughout the world every day approximately around 1400 children died from diarrhea [1]

The impacts that will be had on children who suffer from diarrhea include being susceptible to dehydration (loss of fluids) which can lead to malnutrition or death, another impact is failure in growth, thereby reducing the child's quality of life. This disease has a terrible connotation and causes anxiety and panic in the community because if it is not treated immediately, in a short time ( $\pm$  48 hours) the sufferer will die [2].

In Indonesia, the prevalence of diarrhea is a public health problem with high cases. Based on data from the Indonesian Ministry of Health, the prevalence of diarrhea in 2018 was 37.88% or around 1,516,438 cases in children under five. This prevalence increased in 2019 to 40% or around 1,591,944 cases in children under five (Directorate General of P2P, Indonesian Ministry of Health, 2020). Riskesdas (2018) reported that the prevalence of diarrhea was more common in the toddler group, consisting of 11.4% or around 47,764 cases in boys and 10.5% or around 45,855 cases in girls. Diarrhea is the second leading cause of death in children in Indonesia. under five years old and results in the deaths of around 525,000 children every year. Diarrhea can last several days and can result in dehydration of water and salts necessary for survival. In the past, for most

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people, severe dehydration and fluid loss were the main causes of death. Now, other causes such as septic bacterial infections will likely account for an increasing proportion of diarrhea-related deaths. Children who are malnourished or have compromised immunity and people living with Human Immunodeficiency Virus (HIV) are most at risk of experiencing life-threatening diarrhea (Vinandyana et al., 2021).

The incidence of diarrhea in South Sumatra Province in 2020 was 90,094 cases (Central Statistics Agency, 2021). The prevalence of diarrhea in South Sumatra Province was 5.0% of 32,126 respondents. The highest prevalence of diarrhea was in Bengkulu Province, 8.9% of 7,531 respondents and the lowest was in Bangka Belitung Province, 3.2% of 5,592 respondents. The prevalence of diarrhea according to characteristics when viewed from age groups with the highest prevalence in children aged 1-4 years is 11.5% of 73,188 respondents. If we look at gender, the prevalence of diarrhea is higher in girls, namely 7.1% of 506,576 respondents, compared to boys, namely 6.5% of 510,714 respondents (Risksedas Team, 2019).

The Central Statistics Agency (2021) reported that the incidence of diarrhea in Palembang City in 2018 was 25.4% (42,195 cases), in 2019 it was 26% (45,734 cases) and in 2020 there was 27.5% (24,784 cases). The incidence rates in South Sumatra Province include the incidence of diarrhea in Banyuasin Regency at 11.1% (10,022 cases), Prabumulih City at 1.5% (1,356 cases), and Ogan Ilir Regency at 5.3% (4,801 cases). Based on data from medical record visits, the Palembang Muhammadiyah Hospital reported 305 cases of diarrhea in children aged 1-5 years in 2019, in 2020 there were 58 cases and in 2021 there were 72 cases.

Treating diarrhea cannot be considered easy, so cases of diarrhea usually require hospitalization for further treatment. Child care in hospital forces children to be separated from an environment that they feel is safe, full of love and fun, namely the home environment, play environment and playmates. Preschool aged children showed reactions to separation, namely by refusing to eat, asking frequently, crying even slowly and being uncooperative with health workers (Idris & Reza, 2018).

Treating children in hospital also makes children lose control of themselves. Hospital treatment requires limiting the child's activities so that the child feels like he has lost his strength. The anxiety level of pre-school aged children who are hospitalized is in the high category, some are even very high. This level of anxiety must be treated immediately so that the child does not feel stressed about being in the hospital. Because a stressed mind will cause the child to take a long time to recover from the treatment he is undergoing. Therefore, a form of therapy so that children feel comfortable in the hospital can be in the form of games (Aprina et al., 2019).

Based on the results of research conducted by [3], it was found that children's anxiety when being treated in hospital appeared to decrease after being given puzzle playing therapy for 15 minutes with an average anxiety value before being 76.2 and after being given puzzle therapy. in pre-school children there was a decrease in anxiety levels with a value of 42.6 and there was a significant difference in anxiety before and after being given puzzle therapy in pre-school children with an average difference in anxiety of 33.6. The results of research conducted, when puzzle play therapy was carried out on 17 hospitalized children were very effective in reducing anxiety where the mean value before puzzle play therapy was 34.71 and after puzzle play therapy was 28.71. The results of this study showed that there was a decrease in the anxiety response of preschool aged children during hospitalization. And from research conducted by [4] the anxiety level of children 1-3 years old who were hospitalized before being given puzzle play therapy. Most were moderately anxious 55.0%, a small portion were mildly anxious 5.0%, after being given puzzle play therapy Some children feel anxiouslightheadedness 85.0%, a small portion moderately anxious 15.0%.

Based on the background explained above, researchers are interested in conducting a case study on "Nursing Implementation of Anxiety Reduction through Puzzle Play Therapy Due to Hospitalization of Children with Diarrhea at the Muhammadiyah Palembang Hospital in 2023".

## 2. RESEARCH METHOD

The type of research used in this research is descriptive in a case study design to explore the implementation of nursing anxiety reduction through puzzle play therapy due to hospitalization of children with



diarrhea at the Muhammadiyah Palembang Hospital in 2023. The approach used is a nursing care approach which includes assessment, nursing diagnosis, nursing intervention, nursing implementation, and nursing evaluation.

### 3. RESULTS AND ANALYSIS

#### 3.1. Results

Nursing care for patients An.F (6 years) with acute gastroenteritis and An.A (4 years) with a diagnosis of acute gastroenteritis through assessment, determination of nursing diagnosis, intervention, implementation and evaluation.

##### 3.1.1. Nursing Assessment

The assessment was carried out through historical examination with interviews and head to toe physical examination, the following nursing data was obtained.

###### Case 1 (An.F)

Subject I with the initials An.F was taken to the emergency room at the Muhammadiyah Palembang Hospital by his parents on March 17 2023 at 19.30 WIB, the patient was 6 years 2 months old and male. Came with complaints of vomiting and loose stools. During the assessment the patient appeared restless and lethargic. Based on the medical diagnosis, the patient has acute gastroenteritis.

###### Case 2 (An.A)

Subject II with the initials An.A was taken to the emergency room at the Muhammadiyah Palembang Hospital by his parents on March 19 2023 at 04.30 WIB, the patient was 4 years old and female. Came with complaints of vomiting and loose stools. During the assessment the patient appeared lethargic and fussy. Based on the medical diagnosis, the patient has acute gastroenteritis.

##### 3.1.2. Nursing diagnoses

The main diagnosis raised in Patient 1 (An. and difficulty concentrating).

##### 3.1.3. Nursing Intervention

According to the SIKI DPP PPNI Working Group Team (2018), nursing intervention for Diarrhea patients with anxiety problems due to hospitalization, namely Anxiety Reduction, includes observation, therapy, education and collaboration. At the observation stage, the intervention carried out was identifying the level of anxiety (using the SCAS anxiety scale), at the therapeutic stage creating a therapeutic atmosphere to foster trust and encouraging the family to stay with the patient, at the education stage carrying out diversionary activity exercises to reduce tension through puzzle playing therapy. Not all anxiety reduction nursing interventions were carried out because when implementing nursing, researchers reviewed the level of anxiety in patients I (An.F) and II (An.A) so that nursing interventions would be modified and selected according to needs with the expected results.

##### 3.1.4. Nursing Implementation

Nursing implementation for both patients was carried out in accordance with nursing interventions to Researchers assessed the patient's anxiety level using the SCAS questionnaire which had been modified by the researcher. The questionnaire will be filled out by parents with direction from the researcher. After filling out the questionnaire, the researcher will calculate the total score to determine the patient's anxiety status. The results of implementing nursing actions identified the level of anxiety with the anxiety scale in Patient I (An.F) obtained on the first day a total score of 54 which indicated moderate anxiety, while in patient II (An.A) the anxiety level obtained a total score of 51 which indicated moderate anxiety. On the second day, implementation was carried out in patient I (An.F) and patient II (An.A), then the patient's anxiety level was measured again using a questionnaire. In patient I (An.F), there was a decrease in score of 41, indicating moderate anxiety. Meanwhile, Patient II (An.A) also obtained a score of 39 indicating moderate anxiety. On the third day, patient I (An.F) showed a decrease in anxiety score of 26 mild anxiety. In patient II (An.A) showed a decrease in anxiety score of 25 mild anxiety.

##### 3.1.5. Nursing Evaluation

After implementing nursing for three days, researchers can state that nursing problems can be fully resolved. The final evaluation obtained was as follows: In patient 1 (An. On the first day, the anxiety score in

patient 1 (An. (An.A) it was discovered that there was a decrease in anxiety scores after implementing nursing by providing puzzle playing therapy. for three consecutive days. On the first day, the anxiety score for patient II (An.A) was 51. Implementation was carried out on the second day after giving puzzle playing therapy. Then the anxiety score dropped to 39. On the third day it also dropped again with an anxiety score of 25. The researchers assumed that the results of the research conducted on patient I (An.F) and patient II (An.A) who experienced moderate levels of anxiety and severe levels of anxiety could be handled well through therapy. play this puzzle. Patient I (An.F) who previously experienced a moderate level of anxiety changed slowly to a mild level of anxiety, while patient II (An.A) who experienced a moderate level of anxiety also experienced a decrease from a moderate level of anxiety to a mild level of anxiety.

**Table 1.** Evaluation of reducing anxiety in subjects before and after implementing anxiety reduction nursing through puzzle playing therapy

Patient I (An.F)			Patient II (An.A)		
Day 1 (18/03/23)	Day 2 (19/03/23)	Day 3 (20/03/23)	Day 1 (19/03/23)	Day 2 (20/03/23)	Day 3 (21/03/23)
54 Indicated Moderate anxiety	41 Indicated moderate anxiety	26 Indicated mild anxiety	51 Indicated anxiety currently	39 Indicated moderate anxiety	25 Indicated anxiety light

Based on table 1, it is known that there was a decrease in anxiety levels after implementing anxiety reduction nursing through puzzle playing therapy.

### 3.2. Discussion

After providing nursing care to the two diarrhea patients with anxiety problems, namely patient An. Palembang Muhammadiyah Hospital. The researcher will present a discussion regarding the implementation of anxiety reduction through puzzle playing therapy in reducing anxiety levels.

#### 3.2.1. Description of nursing implementation: Anxiety reduction through puzzle playing therapy

##### 3.2.1.1. Identify Signs and Level of Anxiety

According to the PPNI DPP SDKI Working Group Team (2017), signs and symptoms of anxiety, namely subjective data and major objective data, include major subjective signs: feeling confused, feeling worried about the consequences of the condition being faced and having difficulty concentrating. Major objective data: looks restless, looks tense and has difficulty sleeping. Based on research (Boyoh & Magdalena, 2018), children who experience anxiety due to hospitalization will show a response of crying, restlessness, tension, fear, seem confused and always ask when they are going home, uncooperative with health workers, have difficulty concentrating, have difficulty sleeping, don't want to eat and feeling worried. From the results of case studies, theory and research, it was found that anxiety in pediatric patients is described by existing data. So it can be concluded that theory and reality have general similarities in pediatric patients who experience anxiety due to hospitalization.

The results of identifying anxiety trigger factors by answering 9 questions covering the hospital environment, health workers and family support, the mother of patient I (An.F) answered 8 questions with a yes answer and 1 no answer, while the mother of patient II (An.A) answered 6 questions with yes answers and 3 no answers. This is in line with research [5] on "factors related to anxiety in preschool children who are hospitalized in the children's room at Bangkinang Regional Hospital" it can be concluded that there is no relationship between family support and anxiety in children who are hospitalized, there is a relationship Hospital environmental factors and the anxiety of children who are hospitalized and there is a relationship between health personnel factors and the anxiety of children who are hospitalized. It was clarified that in one of the questions related to family support, patient I (An.F) and patient II (An.A) both answered no to the first question. According to researchers, identifying the factors that trigger anxiety needs to be done in order to find the source of the problem that causes the child's anxiety to increase and family support does not influence the emergence of anxiety in the patient.

In this application the two subjects have different family backgrounds, An. F is the first child in his family while An. A is the fourth child in his family. According to research conducted (Pratiwi & Nurhayati, 2023) in influencing anxiety levels, the first child is more dominant in experiencing high levels of anxiety



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compared to the second child or others. The results found in both subjects before application were in An. F and An. A both have moderate anxiety but An.

### 3.2.1.2. Create a therapeutic atmosphere to foster trust

The therapeutic atmosphere given to patient I (An. what is done at home, how many friends you have, and questions related to worry, fear and anxiety when being treated in hospital. On the first day of assessment, patient I (An.F) and patient II (An.A) felt afraid and less cooperative with the researcher. The patient felt that the nurse who saw him would hurt him. On the second day, patient I (An.F) and patient II (An.A) still felt afraid, looked tense and anxious. On the third day, patient I (An.F) and patient II (An.A) looked calmer and when the researcher asked to talk to the child, the child responded to the researcher and was no longer silent. According to (Yustiari et al., 2021) therapeutic communication with children is an important part in building mutual trust between nurses and children.

### 3.2.1.3. Encourage the family to stay together

Patient Researchers recommend that the patient's parents always accompany the patient so that the patient does not feel lonely while undergoing treatment in hospital. When providing play therapy to Patient I (An.F) and Patient II (An.A), both of the patient's parents always accompanied their children to play. Patient I (An.F) and Patient II (An.A) were both accompanied by their parents so that their anxiety level was resolved. According to (Suari & Imelda, 2019) parental assistance while the child is being treated in hospital can minimize the child's anxiety level, because parents are generally closer to the child. Parental assistance in the hospital will be beneficial for both the child and the nurse. The importance of parental involvement can influence the child's healing process.

In this application the two subjects have different numbers of members in the family. An. F has 5 family members in one house consisting of father, mother, younger sister and younger brother and also An.F has started attending kindergarten while An. A has 4 family members in one house consisting of father, mother and older brother. And have not yet gone to school according to research (Pratiwi & Nurhayati, 2023). Children who have many siblings and playmates tend to feel anxious and lonely while being cared for, in this condition parental coping is needed to provide comfort, calm, attention and affection. Based on the theoretical concept above, it can be seen that the level of anxiety experienced by the author before applying An. F is higher than An.A.

### 3.2.1.4. Providing puzzle playing therapy

Researchers carried out this implementation after finding anxiety scores in both patients. Patients I and II indicated moderate anxiety on the first day. The researcher gave informed consent first to the patient's parents for implementation in the form of puzzle playing therapy. to the patient. Next, the researchers prepared various kinds of puzzles with images that attract children's attention to be used. After that, the researcher gave the patient a puzzle that had been scrambled to assemble. The researcher gave the patient a comfortable position, after that the researcher invited the patient to start playing the puzzle. The researcher accompanied the patient and directed the patient to play the puzzle. lasted approximately 10 minutes.

Patient I (An.F) and Patient II (An.A) experienced the same level of anxiety, with anxiety scores that were not much different, but Patient II (An.A) experienced a significant decrease in anxiety per day compared to Patient I (An. F). In children, the cause of anxiety is related to the hospitalization experience, which can cause high or low levels of anxiety. This is in line with research (Suari & Imelda, 2019) that children who have a history of never being hospitalized before tend to experience severe hospitalization stress because the child has to undergo treatment and the bodily injuries they experience make the child increasingly uncomfortable. Where patient I (An.F) had never been treated before and patient II (An.A) had previous hospitalization experience.

The author assumes that the results of the case study conducted on patient I (An.F) and patient II (An.A) who experienced moderate levels of anxiety could be handled well through puzzle playing therapy. Initially it was difficult for the child to build a sense of trust in the researcher, but thanks to the help of those closest to him, the child began to show a good response. Patient I (An.F) who previously experienced a moderate level of anxiety changed slowly to a mild level of anxiety, while patient II (An.A) who experienced a moderate level of anxiety also experienced a decrease from a moderate level of anxiety to a mild level of anxiety. According to research [6], the success of play therapy in reducing anxiety levels in children is also influenced by the role of the parents who are involved in it. The role of the family and environment is very

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influential in accelerating the healing process and therapeutic action. The presence of parents is very necessary so that children continue to feel safe and comfortable.

This nursing implementation is in accordance with the theory according to the SIKI DPP PPNI Working Group Team (2018) which explains the implementation of nursing for diarrhea patients with anxiety nursing diagnoses, one of which is anxiety reduction through puzzle playing therapy. All of these theoretical implementations can be applied to both subjects so that it can be concluded that there is no difference between the theoretical implementation and the nursing implementation that the researcher gave to both subjects. This is also in accordance with the theory according to Andriana (2013), non-pharmacological measures to reduce the level of anxiety in children with diarrhea, namely by providing puzzle play therapy, namely providing play therapy using equipment with various kinds of puzzle pictures that have been prepared, inviting children to take part in play therapy using puzzle, give the puzzle to the child, instruct and guide the child to start arranging the puzzle pieces that have been given according to the child's age and abilities, set a time limit as effectively as possible to get maximum results, after completing the set time limit instruct the patient to collect the results that have been done, give encouragement and praise to the patient.

#### **3.1.2.5. Results of analysis of the implementation of anxiety reduction nursing through puzzle playing therapy**

After implementing nursing for three days, researchers can state that nursing problems can be fully resolved. The final evaluation obtained was as follows: In patient I (An. On the first day, the anxiety score in patient I (An. (An.A) it was discovered that there was a decrease in anxiety scores after implementing nursing by providing puzzle playing therapy. for three consecutive days. On the first day, the anxiety score for patient II (An.A) was 51. Implementation was carried out on the second day after giving puzzle playing therapy. Then the anxiety score dropped to 39. On the third day it also dropped again with an anxiety score of 25.

Researchers assume that the results of research conducted on patient I (An.F) and patient II (An.A) who experience moderate levels of anxiety can be handled well through this puzzle playing therapy.. according to (Aprina et al., 2019). Play therapy with puzzles is very meaningful in reducing anxiety in children because it requires the child's patience and perseverance in putting it together, gradually it will make the child mentally accustomed to being calm, persistent and patient in facing and completing things Puzzle play therapy can divert the child's attention so that the child's mind is not too focused on actions while the child is being treated in hospital. In addition, the application of play therapy shows mutual understanding behavior between the nurse and the child, so that it will foster mutual trust. Puzzle games can train finger dexterity, eye and hand coordination, sharpen the brain, match shapes, cognitive concepts, train children's patience in putting together puzzles and the relationships between puzzle parts so that they form a complete puzzle.

Based on the results of research conducted by [7], the results of this study found that children's anxiety appeared to decrease after being given puzzle play therapy for 15 minutes with an average anxiety value before being 76.2 and after giving puzzle therapy to children. Pre-school there was a decrease in anxiety levels with a value of 42.6 and there was a significant difference in anxiety before and after being given puzzle therapy to pre-school children with an average difference in anxiety of 33.6 [8]. When puzzle play therapy was carried out on 17 respondents it was very effective in reducing anxiety where the mean value before puzzle play therapy was 34.71 and after puzzle play therapy was 28.71 [9]. The results of this study showed that there was a decrease in the anxiety response of preschool aged children during hospitalization [10].

Research results (Panzilion et al., 2020) When children play, their attention is diverted from the anxiety they are feeling. Apart from its many benefits, using the puzzle playing method can also give children pleasure when playing it so that the anxiety felt by children can decrease. Playing puzzles is also useful for helping improve fine motor skills in children [11]. Puzzles can also help mental development and creativity in pre-school aged children. According to Gupta et al., (2018) explained that there is an influence of therapeutic play (puzzles) on the anxiety level of pre-school aged children undergoing hospitalization in hospital [12]. Therapeutic play using puzzles can reduce anxiety levels in pre-school children undergoing hospitalization [7].

Based on the results of research that has been carried out and accompanied by theories that researchers have studied on patient I (An.F) and patient II (An.A), it can be concluded that puzzle playing therapy can reduce the level of anxiety in children while undergoing hospitalization, because puzzle playing



therapy can provide a sense of joy, can increase children's creativity. From this therapy, children will feel happy, be able to adapt to the surrounding environment and form positive coping which can reduce the level of anxiety in children who are hospitalized.

#### 4. CONCLUSION

Diarrhea is an environmental-based disease caused by infection with microorganisms including bacteria, viruses, parasites, protozoa and is transmitted via fecal-oral route. Diarrhea can affect all age groups, including toddlers, children and adults from various social groups. In this case, the patient must receive invasive treatment to prevent complications, so the patient must be treated in hospital or hospitalized. The trigger for stress in children is the changes in the environment and health status they experience. The impact of hospitalization and anxiety experienced by children will risk disrupting the child's growth and development and have an impact on the healing process. In this study, in patients with diarrhea with anxiety in the Rasyid Talib room at the Muhammadiyah Palembang Hospital for 3 days, the following conclusions were obtained: In the nursing implementation of puzzle playing therapy after implementing puzzle playing therapy on patient (An. Meanwhile, Patient II (An.A) on the first day scored 51 (moderate anxiety) to 39 on the second day (moderate anxiety) and a score of 25 on the third day (mild anxiety). There is an effect of providing puzzle play therapy on anxiety levels in children and puzzle play therapy is effective in reducing anxiety levels in children.

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