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## Analysis of The Implementation of Betta Fish–Assisted Animal Therapy in Reducing Anxiety in Hospitalized Children at Rsui Madinah, Kasembon District

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### Abstract

Anxiety in hospitalized children is a disturbance of the need for safety and comfort, reflecting inadequate emotional fulfillment, thus requiring adaptation during the treatment process. The purpose of this study is to analyze the implementation of betta fish–assisted animal therapy in reducing anxiety among hospitalized children. This study employed a case study design. The subjects were two hospitalized children experiencing anxiety-related nursing problems in the Wahab Khasbullah Ward at RSUI Madinah Kasembon. Data collection methods included interviews, observations, and documentation using source triangulation. Data analysis was conducted in three stages: (1) data reduction, (2) data display, and (3) conclusion drawing. The nursing evaluation showed that participant 1 (P1) had an anxiety level of HARS scale 12 (no anxiety) and FAS scale 2 (smiling). Meanwhile, participant 2 (P2) had an anxiety level of HARS (mild anxiety) and FAS scale 4 (silent). There was a decrease in anxiety levels among hospitalized children in the Wahab Khasbullah Ward at RSUI Madinah Kasembon after the implementation of betta fish–assisted animal therapy. Animal Assisted Therapy (AAT) provides a combination of care activities involving betta fish, where children imagine that a sick fish, when properly cared for, fed, and kept in a clean environment, can recover quickly and avoid illness.

**Keywords:** Hospitalized Children, Anxiety, Animal-Assisted Therapy with Betta Fish.

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## INTRODUCTION

Hospitalization is a condition in which children must undergo treatment in a hospital for health recovery (Delvecchio et al., 2019). Children are more vulnerable to illness and hospitalization, which represents a change in their health condition and daily habits. Hospitalization creates a series of traumatic events and triggers anxiety amid uncertainty for both children and their families, whether due to planned elective procedures or emergency conditions following trauma (Desi et al., 2023).

Anxiety in hospitalized children is a form of disturbance caused by unmet needs for safety and comfort, particularly inadequate emotional fulfillment. This condition requires early intervention. Hospitalization may cause children to feel anxious, fearful of invasive procedures, uncomfortable, experience decreased appetite, and have reduced sleep quality (Atik, Widiyono & Dian, 2023). Delayed management of anxiety can lead children to رفض treatment and medication, which significantly affects the recovery process (Wulan et al., 2023).

According to the World Health Organization (WHO) in 2021, 3% to 10% of hospitalized children in the United States experience stress during hospitalization. Data from the Central Bureau of Statistics (BPS) in 2019–2020 show that 6.22% of children aged 0–4 years and 2.89% of children aged 5–9 years in Indonesia were hospitalized (BPS, 2020). A survey by the Ministry of Women’s Empowerment and Child Protection (KEMEMPPA) in 2015 reported 1,425 hospitalized children, with severe hospitalization impacts at 33.2%, moderate 41.6%, and mild 25.2% (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak, 2022). It is estimated that 35 out of 100 children are hospitalized, and 45% experience anxiety disorders (Kementerian Kesehatan RI, 2020).

Preliminary data from RSUI Madinah Kasembon show that in 2023, 1,083 children were hospitalized, and in January 2024, 42 children were treated for various illnesses. Interviews with the pediatric ward head revealed that children often feel afraid during medical procedures, become uncooperative, and cry. Several factors influencing hospitalization include support systems, physical pain, hospital environment, and prior experiences (Desi et al., 2024). The hospital environment,

unfamiliar faces, and medical equipment sounds can trigger fear and anxiety. Previous negative experiences may also cause trauma.

During hospitalization, children experience stress due to environmental changes, health status, and limited coping mechanisms, potentially affecting their development (Lufianti et al., 2022). Major sources of anxiety include separation from family, loss of control, unfamiliar environments, and reduced independence (Nada & Ayu, 2023). Animal Assisted Therapy (AAT) is a complementary intervention proven to improve treatment outcomes (Montolio & Sancho Pelluz, 2020). AAT involves interaction with animals to enhance mental, emotional, social, and physical well-being (Sirait & Desiana, 2019; Koukourikos et al., 2019). It can reduce anxiety and pain by creating a relaxing environment (Tahan et al., 2022).

One non-pharmacological method to reduce anxiety is AAT using betta fish. This therapy utilizes distraction and relaxation through interaction with the fish. Betta fish are safe, non-allergenic, visually appealing, and promote relaxation through their bright colors (Widiyaningsih et al., 2020). Based on this background, the researcher is interested in analyzing the implementation of betta fish-assisted animal therapy to reduce anxiety in hospitalized children at RSUI Madinah Kasembon.

## RESEARCH METHODS

This scientific paper employs a descriptive method with a case study approach. The study focuses intensively on a specific object, examining it as a case. The research was conducted from October to November 2024, with the nursing care process carried out in four meetings, and nursing interventions provided at least twice for each participant.

The subjects of this case study were pediatric clients aged 3–6 years undergoing hospitalization with nursing problems of anxiety, identified based on major and minor signs and symptoms according to the Indonesian Nursing Diagnosis Standards. The study involved a minimum of two participants with the following inclusion criteria:

1. Pediatric patients hospitalized in the pediatric ward of RSUI Madinah Kasembon, Malang
2. Pediatric patients in a conscious condition
3. Pediatric patients admitted on the first day of hospitalization
4. Pediatric patients experiencing moderate to severe anxiety

The instrument used in this study was a betta fish placed in a mini aquarium. Data collection methods included interviews, physical examinations, and observations. Data validity was ensured through triangulation, with analysis conducted in three stages: (1) data reduction, (2) data display, and (3) conclusion drawing.

## RESULTS AND DISCUSSION

### General Data Results

Two participants were selected based on the inclusion criteria established by the researcher. The participant characteristics are presented in the table below.

**Table 1. Overview of Participant Characteristics**

Participants	
P1	P2
An. I	An. T
7 years	4 years
Female	Female
Elementary School	Kindergarten
Islam	Islam
Javanese/Indonesian	Javanese/Indonesian
Putuk, Banaran	Kepuharjo, Kasembon
Bronchitis	DHF (Dengue Hemorrhagic Fever)
Wahab Khasbullah	Wahab Khasbullah
088xxx	051xxx
17/11/2024, 11:00 AM	18/11/2024, 07:00 PM
18/11/2024, 09:00 AM	19/11/2024, 10:00 AM

Table 1 shows that both participants had medical diagnoses of respiratory and hematological disorders. Participants were aged between 4 and 7, classified as elderly. All were female, and some were still in kindergarten and elementary school. Participants resided in Kediri and Malang Regencies.

### Description of Research Implementation

The researcher conducted the study by visiting the participants and their families in the Wahab Khasbullah Room at RSUI Madinah Kasembon. The researcher then sought information about the room and selected participants according to the inclusion criteria. The researcher then explained the research procedures and agreed to participate based on the knowledge of the person in charge of the participants, who completed the informed consent form, and signed a contract for the time and location for the assessment and nursing evaluation. The researcher then sought participant data through medical records. After identifying participants, the researcher conducted an in-person survey of the room to conduct the nursing care process.

Data collection was carried out by conducting a nursing assessment of anxiety complaints during inpatient care (hospitalization). This resulted in data on major/minor signs and symptoms to support the determination of a nursing diagnosis of anxiety. Nursing interventions were also determined by developing diversional activities to reduce tension (animal-assisted therapy), and nursing actions were carried out during three sessions during the care process. The researcher conducted the nursing evaluation using SOAP.

### Nursing Care Process Results

The results of the nursing assessment, based on subject and object data for two hospitalized children in the Wahab Khasbullah Ward, RSUI Madinah Kasembon, are shown in the table below.

**Table 2. Nursing Assessment Results**

Study Results	
P1	P2
1. The patient's mother stated that her child always feels afraid, anxious, and cries whenever approached by nurses or doctors for examination.	1. When approached by nurses or other medical staff, the patient appeared frightened and anxious. During blood sampling procedures, the patient became very scared and cried hysterically due to fear of needles.
2. The mother stated that previously, when the child was ill, treatment was only done at home or by purchasing medication independently from a nearby pharmacy.	2. The mother stated that this was the second time her child had been hospitalized.
1. When approached, the patient appeared fearful, sullen, and held her mother's hand.	1. When approached, the patient appeared frightened, cried, and hugged her mother.

2. The patient was somewhat fussy and refused to be approached by healthcare workers, both nurses and doctors.	2. The patient tended to be fearful when approached by healthcare workers, both nurses and doctors.
3. The mother expressed concern about her child's condition, especially due to the child's fussiness during medical procedures.	3. The mother felt anxious and worried about her child's condition because the platelet count was still decreasing and the fever had not improved.
During hospitalization, the child had difficulty sleeping and tended to be irritable.	The child had difficulty sleeping and tended to be fussy, especially when having a fever.
1. HARS Score = 26 (moderate anxiety)	1. HARS Score = 31 (severe anxiety)
2. FAS Scale = 5	2. FAS Scale = 6

Based on the data analysis table above, the nursing diagnoses for the two participants who reported being diagnosed with anxiety (SDKI: D.0080). The researcher formulated a nursing problem related to the child's situation and condition during hospitalization with a new acquaintance. Therefore, the anxiety nursing diagnosis relates to the situational crisis resulting from the hospitalization process.

The child's anxiety level after nursing interventions is expected to decrease, with the primary outcome being a decrease in anxiety (Code: L.09093) with the following outcome criteria (SLKI: L.08066):

1. Decreased verbalization of confusion
2. Decreased verbalization of worry due to the situation
3. Decreased restless behavior
4. Decreased tense behavior
5. Improved concentration
6. Improved sleep patterns

The researcher performed nursing interventions in the form of animal-assisted therapy with betta fish for 3 days. The anxiety levels before and after implementation were measured, and the responses were shown in the table below.

**Table 3. Nursing Evaluation Results**

Subject	Day	Anxiety Level	
		Before	After
P1	1	FAS: 6HARS: 26	FAS: 5HARS: 23
	2	FAS: 4HARS: 18	FAS: 3HARS: 18
	3	FAS: 3HARS: 18	FAS: 2HARS: 12
P2	1	FAS: 9HARS: 31	FAS: 8HARS: 30
	2	FAS: 8HARS: 28	FAS: 6HARS: 24
	3	FAS: 6HARS: 20	FAS: 4HARS: 18

## Discussion

### Nursing Assessment

Based on the results of the nursing assessment conducted by the researcher on both participants, data showed that all participants complained of signs of anxiety, including fear, restlessness, and crying while being treated in the hospital. Participant 1 (P1), diagnosed with bronchitis, according to an interview with her mother, reported that her child was afraid and worried when approached by a nurse/doctor. Her temperature fluctuated, she coughed with phlegm, felt weak, had a decreased appetite, and felt nauseous but did not vomit. Furthermore, when approached by a nurse, the patient appeared frightened and held her mother's hand.

Participant 2 (P2), diagnosed with Dengue Hemorrhagic Fever (DHF), according to an interview with her mother, reported that when approached by a nurse or other medical staff, the patient appeared frightened and anxious. She also became frightened and cried hysterically when blood samples were taken. P2 was her second hospitalization. When approached by a nurse, the patient appeared frightened, cried, and hugged her mother. P2's mother reported feeling anxious and worried about her child's condition because her platelets were still low and her fever had not improved. Anxiety in children is an emotional state characterized by excessive fear and worry about certain situations that can impact daily functioning (Mammarella et al., 2021). This anxiety involves cognitive, emotional,

and physiological responses that arise in reaction to a perceived threat (Sholikhah & Fauziah, 2023). Nursing assessments for children include verbal and nonverbal assessments. One method used is the QUESTT. The assessment approach for children in the final period of childhood can utilize a facial rating scale, the Faces Anxiety Scale (FAS), which is used to measure anxiety in hospitalized pediatric patients.

Researchers believe that participants who tend to experience fear and even cry and struggle during hospitalization are due to the process of adapting to a new environment and have a poor perception of the prognosis and treatment of their illness. During the initial assessment, researchers involved families in conducting anamnesis and direct observation of participants to maximize data collection. Furthermore, researchers also reviewed medical records to support the assessment.

Based on the researcher's observations during the study, several other factors can influence children's anxiety levels during hospitalization. Another factor that can influence anxiety levels during hospitalization is the hospital environment. Hospitals can be frightening places from a child's perspective. The unfamiliar atmosphere, unfamiliar faces, various machine sounds, and distinctive odors can cause anxiety and fear in both children and parents. It is best to make the children's hospital room as inviting as possible to make children feel more comfortable, thereby minimizing anxiety caused by hospitalization. This is in line with research conducted by Desi et al. (2024), which states that most children undergoing hospitalization experience anxiety, whether mild, moderate, or severe.

### **Nursing Diagnosis**

Based on data analysis from participant interviews, major signs and symptoms indicated that all participants, including family members, reported that their child felt afraid, worried, and cried when receiving medication from the nurse/doctor. The subject's data also indicated that the child appeared tense, restless, and had difficulty sleeping. Meanwhile, minor signs and symptoms indicated that all participants, including family members, reported that their child had palpitations and refused to eat when approached by healthcare workers. The child's pulse was 112-120 beats/minute, respiration rate 22-24 beats/minute, HARS score 26-31 (moderate-severe anxiety), and FAS score 6-9.

The analysis of the major and minor data above revealed the same cause: the hospitalization process, which resulted in medication for the participant's illness, resulting in a situational crisis. The nursing diagnosis for both participants was anxiety (SDKI: D.0080) related to the situational crisis resulting from the hospitalization process.

A nursing diagnosis is a clinical assessment of a client's response to a health problem or life process, whether actual or potential. It aims to identify the individual, family, and community responses to health-related situations (PPNI, 2016). The nursing diagnosis that emerged in hospitalized children was anxiety (D.0080). This nursing diagnosis emerged because of signs and symptoms of anxiety, such as restlessness, fear, fussiness, and tension (Amilah T. et al., 2023).

Researchers concluded that the children undergoing treatment in the Wahab Khasbullah Ward at RSUI Madinah Kasembon, based on data analysis of major and minor signs, met the Indonesian Nursing Diagnosis Standards for Anxiety. Participant 1 (P1), aged 7 years, had a lower anxiety response than Participant 2 (P2), aged 4 years. This suggests that age can improve the adaptation process to hospital care. Data analysis from P1 revealed a treatment process characterized by signs and symptoms of bronchitis, with medication causing increased stress and anxiety related to the medication. Data analysis from P2 revealed a treatment process characterized by signs and symptoms of dengue fever, with medication causing increased stress and anxiety related to the medication. The treatment conditions for both participants created a situational crisis and fear due to the medication during the treatment process, as well as adjustment to unfamiliar surroundings, which caused anxiety.

### **Nursing Interventions**

Based on the results of the interventions implemented by the researcher to address the nursing problem of anxiety, the researcher determined a reduction in anxiety levels. The primary outcome was a decrease in anxiety levels (Code: L.09093) in the form of outcome criteria (SLKI: L.08066): 1) Decreased verbalization of confusion; 2) Decreased verbalization of worry due to the condition; 3) Decreased restless behavior; 4) Decreased tense behavior; 5) Improved concentration; 6) Improved

sleep patterns. The researcher determined a nursing intervention to meet the outcome criteria, which included an educational reduction intervention (SIKI: I.09314) with the development of an intervention using animal-assisted therapy (AAT) with betta fish. The AAT intervention was administered in the child's room and kept nearby while the nurse performed medication.

Planning included prioritizing problems, goals, and action plans. The primary nursing intervention for the anxiety nursing diagnosis, with the primary outcome being a decreased anxiety level (code: L.09093), is a decreased anxiety level, meaning a decrease in emotional states and subjective experiences toward unclear and specific objects due to anticipation of danger, enabling the individual to take action to address the threat. The outcome criteria for demonstrating decreased anxiety levels (PPNI, 2018) are: Animal-assisted therapy (AAT) is a therapeutic treatment that utilizes animals to address physical, emotional, social, or cognitive goals in humans (Duessa, T et al., 2020).

Researchers argue that to overcome the nursing diagnosis of anxiety due to the hospitalization process, both participants chose an intervention in the form of educational reduction in the form of observation, therapeutic and educational actions by developing AAT betta fish as an adaptation process to the hospital environment. The provision of nursing actions in the form of explaining the SOP for animal assisted therapy betta fish for 1 x 24 hours with the first intervention until the third day. Betta fish that have been provided by researchers in a small glass-shaped aquarium with an attractive setting are given during the administration of medication by holding the aquarium containing the betta fish accompanied by the family and the betta fish is placed next to the bed as therapy to change the pleasant atmosphere of the hospital environment for both participants.

This is consistent with research conducted by Scheck & Dell (2022), which suggests that Animal Assisted Therapy (AAT) provides benefits such as improved mental health, emotional management, and empathy for the population. This allows participants to adapt to the hospital environment with enjoyable and enjoyable experiences during their treatment. Betta fish, a pet, are utilized in AAT to reduce anxiety through the relaxation principle resulting from the interaction between the client and the therapy animal.

### **Nursing Implementation**

Based on the results of nursing actions carried out by researchers over three consecutive days in the Wahab Khasbullah Room at RSUI Madinah Kasembon, data shows that on the first day, all participants achieved the following nursing actions: 1) Identifying anxiety triggers, decision-making skills, and signs of anxiety; 2) Engaging in therapeutic communication by understanding anxiety-provoking situations, listening attentively, and creating a calm and reassuring atmosphere; 3) Providing diversional activities to reduce tension (animal assisted therapy with betta fish); 4) Observing vital signs and anxiety levels. On the second and third days, follow-up actions in points 2, 3, and 4 were followed, accompanied by medication for each participant's illness.

Implementation involves nursing actions performed by the client. Consideration should be given to the nursing actions to be implemented for the client with low self-esteem, as well as the interaction involved (PPNI, 2018). Animal therapy nursing using betta fish does not cause allergies or harm to the individual. It can foster feelings of affection, attention, entertainment, and relaxation, thanks to its bright colors. Furthermore, betta fish can survive well. Previous research found that AAT provides emotional stability for children, reducing anxiety, agitation, and fear (Sirait & Desiana, 2019).

Researchers observed that all participants initially resisted the nursing actions, including medication administered by nurses and doctors. However, after the nurses administered AAT to the betta fish near the participants, there was a change in the healthcare provider's response to the nursing intervention. This indicates a growing acceptance and interest in the betta fish. Communication between healthcare workers and participants, accompanied by their families, created a more conducive atmosphere. Nurses always brought the betta fish close to each nursing procedure for distraction and reassurance during treatment. During the nursing procedure, the use of AAT for betta fish also provided a combination of care and feeding, and participants were involved in the feeding process. Participants imagined that if a sick betta fish was cared for, fed, and kept clean, it would be protected from disease and recover quickly.

**Nursing Evaluation**

Based on the results of the nursing evaluation conducted by researchers from the first to the third day, data showed that participant 1 (1) experienced a decrease in anxiety levels from a HARS scale of 26 (moderate anxiety) on the first day to a HARS scale of 12 (not anxious) on the third day of treatment, and a FAS scale of 6 on the first day to a FAS scale of 2 on the third day, thus addressing the anxiety issues. Meanwhile, from the first to the third day, data showed that participant 1 (1) experienced a decrease in anxiety levels from the initial HARS scale of 31 (severe anxiety) on the first day to a HARS scale of 18 (mild anxiety) on the third day of treatment, and from a FAS scale of 9 on the first day to a FAS scale of 4 on the third day, thus partially resolving the anxiety problem.

Nursing evaluation is based on the effectiveness of the interventions carried out by the family, nurses, and other health workers involved in the care process. Effectiveness is determined by observing the family's response and outcomes (Olfah, 2016). This evaluation uses SOAP operationally with summative (carried out during the nursing care process) and formative (with process and final evaluation) (PPNI, 2018).

Researchers believe that the two participants responded differently from day one to day three of treatment. This was due to the children's age, which was between preschool and school children, resulting in more interactive communication between the school children and the preschoolers. Furthermore, the participants had different medical diagnoses, namely bronchitis and dengue fever (DHF), with children with DHF more likely to experience signs and symptoms, including general body aches caused by the dengue virus.

The researchers' analysis of the difference in anxiety levels in participant 1 (P1) revealed a significant change on the HARS scale, from 26 (moderate anxiety) on the third day to 12 (not anxious), indicating a desire to take the betta fish home. Meanwhile, the FAS scale, which initially had a 6, decreased to 2 on the third day of treatment. This indicates a decrease in anxiety levels regarding the administration of AAT to betta fish to hospitalized children in P1.

The researchers' analysis of the difference in anxiety levels in Participant 2 (P2) revealed a significant change on the HARS scale, from 31 (severe anxiety) to 18 (mild anxiety) on the third day. The participant remained quiet but appeared calmer at the beginning of treatment. Meanwhile, the FAS scale, which initially stood at 9, decreased to 6 on the third day of treatment. This indicates a decrease in anxiety levels following the administration of Betta fish AAT to hospitalized children in P2.

The analysis above indicates a decrease in anxiety levels in hospitalized children in the Wahab Khasbullah Room at RSUI Madinah Kasembon using Betta fish AAT. These results align with research by Putri et al. (2017) which demonstrated the effect of animal therapy with ornamental fish on hospitalized sleep disorders in preschool children. Furthermore, research by Kapti et al. (2018) suggests that animal therapy with ornamental fish can also reduce regression rates by creating a comfortable, calm, and relaxing environment amidst stressors in hospitalized preschool children.

**CONCLUSION**

1. All hospitalized child participants during the assessment presented with primary complaints of fear, appeared restless while sleeping, appeared tense, cried, and refused medication from both nurses and doctors.
2. The nursing diagnosis that emerged was anxiety related to a situational crisis resulting from the hospitalization process.
3. The nursing intervention to address anxiety was educational relaxation with the development of animal-assisted therapy interventions using betta fish.
4. The response after nursing interventions showed anxiety levels at P1 on the HARS scale of 12 (not anxious) and 2 (smiling). Meanwhile, at P2 on the HARS scale of 2 (mild anxiety) and 4 (quiet).
5. Nursing evaluations of participants 1 and 2 showed data indicating a decrease in anxiety and adaptation to the hospitalization process.

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