

## THE EFFECT OF COCOMELON MUSIC THERAPY ON HOSPITALIZED PRE-SCHOOL CHILDREN STRESS REDUCTION

**Dini Nurbaeti Zen** <sup>1\*</sup>, **Daniel Akbar Wibowo** <sup>2</sup>, **Chandra Mahardika** <sup>3</sup>

<sup>1, 2, 3</sup> Faculty of Health Sciences, Galuh University, Ciamis

Corresponding Author: <sup>1\*</sup> [dininurbaetizen@gmail.com](mailto:dininurbaetizen@gmail.com)

### ABSTRACT

Hospitalization often has both physical and psychological effects on children. Stress, feeling unfamiliar with surroundings and having to adapt to a new environment are some examples of what children experience when they are hospitalized. This research aims to determine the effect of *Cocomelon* music therapy on reducing stress in pre-school children who were hospitalized in Melati room 3 Ciamis regional hospital in 2022. This research employed a quasi-*experiment* design with pre-post *test design* consisting of one intervention group. The samples were randomly collected with *purposive sampling*. The total samples were 15 children. The data was analyzed applying paired *sample t-tests*. The results were supported by statistical tests which produce 0.043 p value, where  $p \leq 0.05$ , it can be concluded that there is an effect of music therapy on reducing children's stress levels due to hospitalization in the Melati room 3 Ciamis Regional Hospital in 2022. For the recommendation purpose, music therapy can be used as an alternative treatment for children experiencing the stress of hospitalization.

Keywords: Preschool children, Hospitalization, Stress, Cocomelon Music Therapy

### Introduction

Based on the National Health Survey (Susenas), the morbidity rate for children in Indonesia in 2019 is seen from the percentage of children aged 0-4 years according to health characteristics complaints which show 50.29% in urban areas and 44.90% in rural areas. On the other hand, 48.17% male and 47.55% female with a total number 47.87% based on gender.

The National Centre for Health Statistics estimates that 3-5 million children under the age of 15 are hospitalized every year. Observing the percentage of children aged 0-4 years who have been hospitalized in 2017-2019 according to characteristics in urban areas 8.25%, rural areas 5.45% where there are 7.66% more males compared to 6.28% females, and the data was obtained from West Java Province in 2019 which presented 7.19% of children who had been hospitalized (health statistics profile, 2019). This causes children to be hospitalized in both public and private hospitals (Sari & Suryani, 2017).

Being hospitalized can be a challenging time for kids. It causes stress as they must adjust to something unfamiliar and new. The environment they find themselves in is completely different from what they're used to, adding to the need for adaptation (Oktiawati, 2017; laws et al., 2019). Throughout a hospitalization period, it is imperative for nurses to undertake measures aimed at mitigating the stress response of patients, including minimizing the effects of separation, alleviating elements beyond the child's control, and fostering familial support, all within the framework of pediatric hospitalization preparation. (Hockenberry & Wilson), 2013)

According to Supartini's research in 2004, it was said that hospitalization can cause an experience that has a traumatic impact on children and parents, causing reactions that can affect the child's care during their stay in hospital, a disease that is very susceptible to preschool age children, so that pre-school age children causing a significant increase in these cases, then from various studies it was found that children and parents can experience various events that cause traumatic and stressful outcomes as a result of hospitalization (Supartini, 2004)

Preschool children are aged between 3 and 5 years, a period of continuous growth and development (Wong 2008). The stages of physical and motor development of preschool children include the ability to play, exercise, be energetic and imaginative, begin to form moral development, start playing with gender and chat with groups (Setiawan, 2014). Thus, the condition of hospitalization can cause stressors where the child feels like he is entering a foreign world, not infrequently this situation can ultimately cause anxiety, fear, and stress in the child. Nevertheless, the condition of hospitalization can cause stressors where the child feels like he is entering a foreign world, not infrequently this situation can ultimately cause anxiety, fear, and stress in children. The impacts of stress include, among other things, the effects of stress will have emotional, cognitive, physical, and behavioral effects. Emotional effects include anxiety, depression, physical and psychological stress (Perry & Potter, 2010). Reducing stress according to (Widyastuti 2003) can be done with several physical relaxation techniques and mental relaxation techniques, one of which is listening to music.

Music therapy can help reduce stress levels in a person (Kate & Mucci 2009). According to research by Kazemi et al., (2012), music can significantly reduce stress in pre-school children who are hospitalized. Apart from that, in her study (Ariani et al., 2015) it is said that the negative effects of stress due to hospitalization can be reduced by music therapy in the hospital because it stimulates and releases endorphins and serotonin, which are the body's natural forms of morphine and methane, which have an influencing effect in someone who is experiencing stress so that morphine and of methanone will help someone feel more relaxed (Mucci, 2002).

*Cocomelon - nursery rhymes* is a children's animation YouTube channel that is currently trending and is very popular among young and pre-school children today. *Cocomelon - nursery rhymes* is an audio-visual animation which consists of animation and music. It first appeared on YouTube on September 2, 2006, which to date has reached 124 million viewers and has reached 130 million subscribers with 740 videos that have been downloaded and uploaded. Based on a preliminary study on April 15, 2022, the results were obtained from 8 pre-school age children who were hospitalized in the Melati room 3 Ciamis Regional Hospital, including 5 children experiencing anxiety and looking restless, then 3 children were seen always crying and experiencing fear. When a nurse approached them and when a medical procedure was about to be carried out, and at Ciamis Regional Hospital specifically in Melati Room 3, it is a special inpatient room for children from 2 months to 18 years old and in this hospital, there has never been research on music therapy before.

## Methodology

This research design utilized *quasi experiment* by using *One Group Pretest-Posttest* Design. In this study, one group of subjects was used, where the group was observed before and after the intervention called pre-test and post-test (Arikunto, 2010).

According to Sekaran (2006), the minimum sample size in experimental research is 15 people from each group, and according to Ay and Diehl (1992) Experimental research, the minimum sample size is 15 subjects in one group. *Purposive sampling* was the technique used to select samples according to the researcher's needs and based on research objectives.

## Results And Discussion

### Study findings

#### *Univariate Analysis*

**Table 1: Stress Levels of Pre-School Age Children Before Being Given *Cocomelon* Music Therapy in Melati Room 3 Ciamis Regional Hospital**

No	Pre Test	Frequency	Percentage
1	Mild	5	33,33%
2	Moderate	4	26,67%
3	Severe	6	40%
<b>Total</b>		15	100%

According to the findings presented in Table 1, the majority of participants, specifically children admitted to Melati Room 3 of Ciamis Regional Hospital, experienced a high degree of stress, with six individuals (40%) exhibiting severe stress levels. A portion of the children displayed mild stress levels, comprising five individuals (33.33%), while the remaining four individuals (26.67%) demonstrated moderate levels of stress.

**Table 2: Stress Levels of Pre-School Age Children After Being Given *Cocomelon* Music Therapy in Melati Room 3 Ciamis Regional Hospital**

No	Stress Category	Frequency	Percentage
1	Mild	0	0%
2	Moderate	12	80%
3	Severe	3	20%
<b>Total</b>		15	100%

According to the data depicted in Table 2, the majority of participants experienced a moderate degree of stress, comprising twelve individuals (80%), while a minority of respondents encountered severe stress levels, totaling three individuals (20%). Notably, there were no respondents indicating a mild level of stress (0%).

#### *Bivariate Analysis*

Bivariate analysis is basically carried out on two variables that have a relationship or correlation, namely the relationship variable regarding the application of *Cocomelon* Music Therapy on the stress level of children undergoing hospitalization in Melati Room 3 Ciamis Regional Hospital.

**Table 3: The Effect of *Cocomelon* Therapy on Hospitalization Stress Levels of Pediatric Patients in Melati Room 3 Ciamis Regional Hospital**

Therapy <i>Cocomelon</i>	Stress level						Amount		P value
	Severe (N)	%	Moderate (N)	%	Mild (N)	%	(N)	%	
Pre test	6	40.0	4	26.67	5	33.33	15	100%	0.043
Post test	3	20.0	12	80.0	0	0.0	15	100%	

Based on table 3, the data indicates a reduction in stress levels following therapy intervention with Cocomelon among hospitalized children in Melati Room 3 of Ciamis Regional Hospital. Post-therapy, there was no child identified as experiencing high-level stress, contrary to the previous report which identified three children in this category. Statistical analysis supports this observation with a p-value of 0.043, where  $p \leq 0.05$ , thereby confirming the initial hypothesis that therapy involving Cocomelon significantly influences the stress levels of children.

## Discussion

### 1. Children's Stress Level due to hospitalization before Cocomelon Music Therapy

Based on the research findings, the majority of participants, specifically children admitted to Melati Room 3 at Ciamis Regional Hospital, experienced severe stress levels, accounting for six individuals (40%). Additionally, a portion of the children exhibited mild stress levels, comprising five individuals (33.33%), while the remaining four individuals (26.67%) demonstrated moderate stress levels.

As stated by Wong et al (2008), one of the biggest causes of stress in children who are hospitalized is anxiety due to separation, loss of control, bodily injury or pain. Hospital treatment is a big problem and causes fear and anxiety for children. These feelings may be caused by the change from health to illness and changes in different environmental habits and the child's limited ability to cope with stress during hospitalization (Wong et al, 2008)

Children, anxious about separation, express their fears of hospitalization. They mention being away from family as their primary concern regarding another hospitalization. Preschoolers are typically active both physically and mentally, often exploring the hospital environment. Feelings of loneliness, boredom, isolation, and depression are prevalent among them (Wong et al. 2008).

By losing control, preschoolers become vulnerable to events that can diminish their sense of control and power. The daily routines in many hospitals require personal strength and identity. For preschoolers, activities that rely on dependence, such as enforced rest breaks, restroom use, lack of menu choice, limited privacy, assistance with bed baths, or being confined to a wheelchair or stroller, can directly threaten their sense of security. In addition to procedural aspects, environmental factors within the hospital can also contribute to feelings of loss of control. Boredom emerges as one of the primary challenges for children in this age group (Wong et al, 2008).

The stress experienced by children cannot be considered a trivial problem because it can threaten a child's psychological or mental health, especially during their growth and development. Plus, it is feared that stress can develop into a more dangerous form, namely depression. Therefore, it is necessary to have an effective method or strategy to reduce stress levels in children undergoing hospitalization.

### 2. Children's Stress Level due to hospitalization after Cocomelon Music Therapy

According to the research data, the majority of participants exhibited a moderate level of stress, with twelve individuals (80%) falling into this category. A minority of respondents, totaling three individuals (20%), reported experiencing severe stress levels, while none indicated a mild level of stress (0%).

The data was carried out through the stages of data analysis through univariate and bivariate statistical tests. It can be seen that the results show that there is a significant influence between the variables providing *cocomelon* music therapy on children's stress levels. This is obtained from the t-test score of  $2.1448 > 1.96$ , so the hypothesis which states that there is a significant influence or relationship between the variables of providing *cocomelon* therapy on children's stress levels can be accepted as true.

The data suggests a reduction in stress levels following Cocomelon music therapy among hospitalized children in Melati Room 3 of Ciamis Regional Hospital. Following the therapy sessions, none of the children were found to experience severe stress, in contrast to the earlier observation where three children reported severe stress. Statistical analysis supports this finding, with a p-value of 0.043, indicating statistical significance ( $p \leq 0.05$ ). Therefore, the initial hypothesis, proposing a significant relationship between Cocomelon therapy and children's stress levels, is affirmed.

Considering the dangers of stress that can occur in children who are undergoing hospitalization, an effective strategy is needed which can take various forms to minimize the level of stress in order to maintain the child's mental health and development, one of which is Cocomelon music therapy. Cocomelon - nursery rhymes is a YouTube channel featuring children's animations that has gained significant popularity among young children and preschoolers. It offers audio-visual content comprising animations and music. The channel debuted on YouTube on September 2, 2006, and has since amassed 124 million views and 130 million subscribers, with a total of 740 uploaded videos to date.

Music therapy is a non-pharmacological therapeutic technique that is relatively simple to implement. Moreover, it has effects that demonstrate its influence on a person's tension or relaxation levels, stimulating the release of endorphins and serotonin hormones, which act as the body's natural morphine, thereby promoting relaxation. (Mucci, 2002).

According to (Kate & Mucci 2002) music therapy can help reduce stress levels in a person. The results of research by Kazemi et al., (2012) explain that music can significantly reduce stress in school-aged children who are hospitalized. Apart from that, in his study (Ariani et al., 2015) it was said that the negative effects of stress due to hospitalization could be reduced with music therapy.

## Conclusion

The conclusions in this research are:

1. The stress levels of preschool-aged children prior to receiving Cocomelon Music Therapy in Melati Room 3 at RSUD Ciamis indicate that nearly all respondents, specifically children undergoing hospitalization in Room Melati 3 at RSUD Ciamis, exhibited severe stress levels. Six individuals (40%) reported severe stress, while five children (33.33%) experienced mild stress, and the remaining four individuals (26.67%) had moderate stress levels.
2. Following the administration of Cocomelon Music Therapy, the stress levels of preschool children indicate that the majority of respondents exhibited a moderate level of stress. Twelve individuals (80%) fell into this category, while three children (20%) reported severe stress. Notably, no respondents reported experiencing mild stress.
3. The impact of Cocomelon Music Therapy on alleviating stress levels in preschool children due to hospitalization was assessed through data analysis, employing univariate and bivariate statistical tests. The results demonstrate a significant

correlation between the provision of Cocomelon therapy and children's stress levels. This conclusion is supported by the t-test score of 2.1448, which exceeds the threshold of 1.96, indicating a substantial relationship between the therapy variables and children's stress levels.

4. Data indicates a decrease in stress levels following Cocomelon therapy among children undergoing hospitalization in Melati Room 3 at Ciamis Regional Hospital. After receiving Cocomelon therapy, none of the children were found to experience severe stress, contrasting with the previous observation of three children reporting severe stress. Statistical analysis further supports this finding, with a p-value of 0.043, below the significance threshold of 0.05. Hence, the initial hypothesis suggesting a significant relationship between Cocomelon therapy and children's stress levels is deemed acceptable.

### Limitations and future direction

There are several limitations to this study that require consideration when the findings are interpreted. Among them is not using a control group in the research.

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### Declarations

The authors declare that there is no conflict of interest.

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