

The Effect of Cartoon Films on Anxiety Levels in Preschool-Aged Children Undergoing Hospitalization at Hermina Podomoro Hospital

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Abstract

ABSTRACT

Background study This based on a number of matter that is Anxiety in children moment treated at home Sick can influence welfare they , and one of them method For reduce anxiety the is with use technique distractions , such as watching cartoons . Research This **aim** For analyze the influence of cartoon films to level anxiety child age preschool undergoing hospitalization at Hermina Podomoro Hospital . The **method** used in study This is design pre-experiment with one group pretest- posttest design , involving 47 samples child age pre -school care at home sick . Research This done with measure level anxiety child before and after watching cartoons as form intervention . Measurement anxiety done with use scale certain . **Research results** show that the average level anxiety child before intervention is 1.73, which includes in category anxiety moderate , whereas after intervention , average level anxiety down to 1.27, which includes in category anxiety light . Statistical test produces a p-value of 0.004, which indicates significant differences in levels anxiety child after watching cartoons . **In conclusion** , the research This show that cartoon film intervention own influence positive in reduce level anxiety in children age preschool undergoing Hospitalization . Visual distraction techniques through cartoon films can become effective alternative in help reduce anxiety in children in the environment House Sick .

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INTRODUCTION

Research background:

Hospitalization is an unpleasant experience and causes a stress crisis for children and families due to changes in daily habits and limited adaptation mechanisms (Widiastuti et al., 2022). According to *World Health Organization* (WHO) in 2021 , the proportion child age preschool that undergoes global hospitalization reached around 45%. The results of a survey by *the United Nations Children's Fund* (UNICEF) in 2023 , the prevalence child age preschool that undergoes hospitalization as much as 84%. In Indonesia, children age school (7-11 years) , namely 47.62% undergoing home care sick (Ministry of Health , 2021), based on Research conducted by the Indonesian Pediatrician Association (IDAI , 2021) estimates that 30-50 % of hospitalized children experience anxiety. In preschool-aged children, anxiety is more often caused by fear of medical procedures, separation from parents, and interviews regarding upcoming treatment (Melnyk et al., 2016) . age preschool is part from child Which aged between 3-6 years old, and this phase is considered the golden age because at this age, children usually participate in *playgroup* and kindergarten programs. At this age, children

have an important role in developing their potential to carry out motor activities according to their development (Syarifah, 2022). Research shows that children who feel anxious tend to show **negative physiological responses**, such as increased heart rate, blood pressure, and cortisol levels, which can slow their healing process (Jones & Rowland, 2020). In a preliminary study conducted at Hermina Podomoro Hospital **80%** (8 out of 10 children) **children** School-aged children who are hospitalized experience anxiety, mostly worrying about the medical care they will receive and the unfamiliar hospital environment. One strategy to reduce the impact of hospitalization is by facilitating activity Which in accordance with development (Firmansyah et al., 2021). Activities watch cartoon or favorite movies child can reduce **anxiety** and **stress** experienced child during undergo maintenance medical as technique Distraction (Melnik et al., 2016; Jones & Rowland, 2020).

Literature review:

Previous studies have shown that distraction interventions are generally effective in reducing anxiety levels in children during hospitalization. The most effective types of distraction include the use of toys, games, music, and audiovisual media. This study highlights the importance of implementing distraction interventions as a non-pharmacological strategy that can help reduce anxiety and increase positive experiences in children (Jones et al., 2020). Research conducted by Skeffington et al., 2019, showed that hospitalization can have a significant psychological impact on children, including increased anxiety levels. Various coping strategies implemented by children and their families, such as psychological approaches and social support, have the potential to help reduce the negative impact of hospitalization and anxiety. This study highlights the importance of understanding and taking a holistic approach to addressing children's psychological needs. The implementation of various distraction interventions increases positive experiences, but specific interventions that can reduce anxiety during hospitalization in school-age children have not been found. The results showed that children who used the distraction technique of watching animated cartoons experienced a significant reduction in pain scores during IV insertion compared to the control group. This indicates that the distraction technique is effective in reducing pain perception in young children during medical procedures such as IV insertion (Safrika, 2020).

Gap analysis :

Previous research has shown that anxious children tend to exhibit negative physiological responses, such as increased heart rate, blood pressure, and cortisol levels, which can slow down their healing process (Jones & Rowland, 2020). A frequently used method to relieve children's anxiety is a psychological approach. such as providing simple, understandable information to children. However, some of these methods are not enough to distract children from their fears. Therefore, at this stage, the use of **cartoons** as a distraction tool is introduced, with the aim of effectively reducing children's anxiety in a fun and familiar way. Cartoons have elements that can calm children, such as cute characters, enjoyable stories, and colorful visuals, all of which can provide a sense of security and reduce emotional tension. Various studies have shown that visual distraction techniques, including the use of audiovisual media, are effective in reducing children's anxiety during medical procedures and hospitalization (Uman et al., 2013; Mason et al., 2012). However, most of these studies still focus on invasive procedures, such as injections or preoperative procedures, and are conducted in various settings and age groups. This is in line with research conducted by Safika (2020). The results showed that children who used the distraction technique of watching animated cartoons experienced a significant reduction in pain scales during IV insertion compared to the control group. This indicates that the distraction technique is effective in reducing pain perception in young children during medical procedures such as IV insertion.

Research rationale:

The process of a child being admitted to a hospital environment has a significant psychological impact. The unfamiliar environment, frightening medical procedures, and separation from parents or daily routines can cause severe stress known as hospitalization stress ([Ikhsan et al. 2024](#)). This theory emphasizes that hospitalized children will exhibit regression reactions, fear, and anxiety as a form of adaptation to an unfamiliar situation. Sigmund Freud (1936) explained that anxiety is an emotional response to a perceived threat, whether real or unreal. According to *the American Psychiatric Association* (2022), anxiety is an emotional state characterized by excessive worry or fear about possible future events. The psychological impact of hospitalization Various non-pharmacological interventions have been developed. One method that is increasingly being used is utilizing entertainment media, particularly cartoons. Cartoons tailored to children's interests and ages can be an effective tool for providing distraction, reducing fear and anxiety, and creating a more familiar and comfortable atmosphere in the hospital. This is in line with several studies conducted by [Melnik et al. 2016](#), which showed that **distraction therapy**, such as watching cartoons or films that children like, can reduce **anxiety** and **stress** experienced by children during medical treatment.

Research purposes:

a. General purpose

For analyze the influence of cartoon films **to** level anxiety in patients child age preschool undergoing hospitalization at home Sick .

b. Special purpose

1. Identifying characteristics anxiety before cartoon film intervention child age pre -school care stay at home Sick .
2. Identifying characteristics anxiety after cartoon film intervention child age pre -school care stay at home Sick .
3. Analyze The influence of cartoon films to change level anxiety in children age preschool before and after watching cartoons during the hospitalization process .

Hypothesis

Hypothesis in study This is There is an influence of cartoon films on the level of anxiety in pre-school aged children undergoing hospitalization.

Method

The design used in this research is *a one group pretest-posttest pre-experimental research* . This research design does not have a comparison group (control) but at least the first observation (pretest) has been carried out which allows researchers to test the changes that occur after the experiment ([Agustianti et al., 2019](#)). The pretest and posttest design aims to determine the effect of cartoon films on anxiety levels in hospitalized preschool children . The *pretest and posttest* design in this study is as follows:

01	X	02
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Picture 1. Design Study

Information:

01 = Measurement First level anxiety before intervention

X = Providing cartoon film intervention

02 = Measurement second level anxiety after cartoon films

Participant

The population in this study were preschool-aged children who underwent treatment at Hospital X over a period of (2 months) totaling 1,000. patients with an average The number of children/month treated was 143. This study used a sampling technique, namely *consecutive sampling*. that is a sampling method carried out by selecting samples that meet the research criteria within a certain time period so that the number of samples is met (Hidayat, 2009).

Instrument

Instrument in study This uses a Characteristics questionnaire and an anxiety scale observation sheet. The instrument has been used by other researchers, so the researcher did not test the validity of the research instrument but based it on testing from previous researchers. The validity test of *the child anxiety scale* $r(100) = .47$, $p < .001$, shows that this instrument is reliable.

The instrument used was developed by research by McMurtry (2010). The reliability test for the measuring instrument obtained a reliability coefficient of 0.77, indicating that this instrument is valid.

Gap Analysis

This study uses data analysis techniques with the Wilcoxon test, namely by finding the difference in the mean of the pretest and posttest. This analysis is used to determine the level of anxiety in children during hospitalization before being given cartoon films and after being given cartoon films. After the data is collected and has been scored, the Wilcoxon test is then carried out to determine the comparison of observations before and after treatment of the independent variable and the dependent variable, to determine whether the difference between the two variables is significant or not using a significance level or truth of 0.05, SPSS version 21 software is used, where the p value is smaller than the alpha value ($p < 0.05$) then there is a significant difference, so it will be known the effect of watching cartoon films on the level of anxiety in hospitalization in children by comparing the pretest and posttest. Meanwhile, if $p > 0.05$ then there is no significant difference so it is known that there is no effect of cartoon films on the level of anxiety in children undergoing hospitalization.

RESULTS AND DISCUSSION (DISCUSSION)

Results review characteristics respondents based on type gender is as follows:

Table 1. Distribution frequency respondents based on type sex patient child

Type Sex	Amount (child)	Presentation (%)
Man	15	36
Woman	32	64
Total	47	100

Based on Table 1. It shows that the majority of respondents were female, amounting to 32 children (64%). The tend-and-befriend theory proposed by Taylor et al . (2000) explains that that Woman tend more prioritize connection social and support social when face stress , whereas man tend more Focusing on the "fight or flight" response , girls may be more sensitive to changes in their environment (such as being in the hospital), which can increase their anxiety.

The results of the review of respondent characteristics based on age are as follows:

Table 2. Distribution frequency respondents based on patient age child

Age (Year)	Number of children)	Presentation (%)
3	1	12
4	20	32
5	25	44
6	1	12
Total	47	100

Based on Table 4.2 show that almost from Half of the respondents were 5 years old, 25 children (44%). According to the SDIDTK guidelines, 5 years old is classified as preschool age, a period of development characterized by increased physical activity and the development of skills and thought processes. Entering preschool, children begin to express their desires, in line with their growth and development. When preschool children are hospitalized, their activities and desires are automatically hampered. The response shown by preschool children due to anxiety and fear of hospitalization is that children are often fussy, easily angered, and unable to cooperate with health workers. According to [Potter & Perry \(2005\)](#).

The results of the review of respondent characteristics based on length of hospital admission (MRS) are as follows:

Table 3. Distribution frequency respondents based on long enter House patient's illness (MRS) child

Day of care	Amount (child)	Presentation (%)
1	19	44
2	27	54
3	1	2
Total	47	100

Based on Table 3. Show that part big respondents enter House Sick between 9-16 hours a total of 27 children (54%). Research by [Chusniyah \(2016\)](#) also said that besides age , experience treated at home illness also has a big influence on condition stress hospitalization in children . This This means experience treated at home Sick influence child experience condition stress moment operate hospitalization

Level Anxiety Child hospitalization Before Intervention

Table 4. Results Study Based on Level Anxiety Preschool-aged children who underwent hospitalization before intervention (n= 47)

Anxiety Level Before Intervention	Mean	Median	Mode	Min - Max	Standard Deviatio n	CI- 95%
	1.73	2	2	1 - 3	0.594	1.40 - 2.06

Based on table 4, it shows that the average value of the anxiety level before the intervention was 1.73, median 2, mode 2, the lowest value of the anxiety scale was 1, And mark highest 3 with standard

deviation 0.594. On level of confidence 95% so difference scale anxiety before giving distraction techniques ranged in value from 1.40% to 2.06%.

Level Anxiety Child hospitalization After Intervention

Table 5. Results Study Based on Level Anxiety Preschool aged children who underwent hospitalization after intervention (n= 47)

Anxiety Level After Intervention	Mean	Median	Mode	Min - Max	Standard Deviatio	CI- 95%
	1.27	1	1	0 - 2	0.594	0.94 - 1.60

Table 4.5 shows that the average anxiety level after the intervention was 1.27, with a median of 1, a mode of 1, and a lowest value of 0 and a highest of 2, with a standard deviation of 0.594. At a 95% confidence level, the difference in anxiety levels after the distraction technique ranged from 0.94% to 1.60%. This means There is change level anxiety decreased in children after given intervention .

Influence Cartoon Film Award To Changes in Anxiety Levels of Hospitalized Children

In this study, the p -value = 0.062 if the decision is taken p -value = 0.062 > α = 0.05 so it can be said that the data is normally distributed. After the data is known to be normally distributed, data analysis is carried out. to compare the average values of the pre-test and post-test using the *Paired Sample t-Test* .

Table 6. Analysis of the influence of cartoon films on the level of Anxiety preschool-aged children undergoing hospitalization (n= 47)

Anxiety level	Mean	Median	Mode	Min - Ma x	Standar d Deviati on	CI- 95%	Differen t Mean	P - Value
Pre- intervention	1.73	2	2	1- 3	0.594	1.40- 2.06	0.46	0.004
Post- intervention	1.27	1	1	0- 2	0.594	0.94- 1.60		

Based on table 6, it is explained that the average value of the scale anxiety before intervention 1.73, median 2, mode 2, lowest value of anxiety scale 1, and highest value 3 with standard deviation 0.594. At 95% confidence level, the difference in anxiety scale before administering distraction technique is around on value of 1.40 to 2.06%. Meanwhile, the average value of the anxiety scale after the intervention was 1.27, median 1, mode 1, with mark lowest 0 And highest 2 with standard deviation as big as 0.594. At a 95% confidence level, the difference in anxiety scale after administering the distraction technique ranged from 0.94 to 1.60%, with a mean difference between before and after the intervention of 0.46. Based on the results of the *Paired Sample t Test* for decision making with an error rate of 0.05, sig (0.004) < 0.05 was obtained. The conclusion from the *Paired Sample t Test* is that there is a significant influence between anxiety scale before and after being given cartoon films preschool-aged children undergoing hospitalization. Matter This means There is connection between the provision of cartoon films and the scale of children's anxiety preschool age who underwent hospitalization, some of the causes of this decline were due to elements such as

pictures, colors, stories and emotions (happy, sad, exciting, spirit) which The elements in cartoons are elements of the right brain, and the sounds that emerge from the cartoons are elements of the left brain. Therefore, by watching animated cartoons, the child's right and left brains are used simultaneously in a balanced manner, allowing the child to focus on the cartoon (Windura, 2008). The results of this study are almost the same as the results of research conducted by Adnanda (2016), which stated that cartoons can reduce child anxiety age 6-8 year during action dental in RS. Another study that supports the results of this study is the results of research conducted by Ekawati, 2020, which showed that children who used the distraction technique of watching animated cartoons experienced a significant decrease in inpatient stress levels when given a bolus injection compared to the control group.

Limitations study

This study has limitations because it uses a pre-post test design without a control group, the number of samples and intervention time is limited, and it has not fully controlled for other factors that can influence children's anxiety levels.

This study may have used only a specific length of film (e.g., 30 minutes to 1 hour), which may not be sufficient to significantly reduce anxiety in the long term. Children may need more time to truly feel comfortable and calm after watching cartoons, especially if their anxiety is already high. Furthermore, films that are too short or inappropriate for children's attention spans may limit the effectiveness of films as a distraction method.

Implications Study

1. For Service Nursing

The results of this study can be used as base application of cartoon films as non- pharmacological interventions For lower anxiety child age pre school during hospitalization .

2. Share Knowledge Nursing

This research adds evidence scientific about effectiveness therapy audiovisual distraction in care nursing children , in particular in management anxiety .

3. For Hospitals

The results of this study can become consideration for hospitals in development service friendly child through provision of audiovisual media as part from maintenance holistic .

4. For Researchers Furthermore,

this research can become reference for researchers furthermore For develop study similar with variables , methods , or groups different ages .

CONCLUSION

Results study obtained p value = 0.004 i.e. $p < 0.05$ means There is difference level significant anxiety in children after done cartoon film intervention , so that There is influence technique visual distraction of cartoon films to anxiety child age pre school who underwent hospitalization at Hermina Podomoro Hospital.

SUGGESTION

The application of visual distraction techniques in the form of cartoon films can be used to reduce the anxiety of preschool-aged children during hospitalization with hospital support, as well as contribute to the development of nursing science and further research.

CONFESION

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AUTHOR CONTRIBUTION STATEMENT

FT contributed to journal review, phenomenon identification, theoretical concept and research design, manuscript, GM contributed to data collection, data analysis, and drafting, HN contributed to research design, data analysis and manuscript.

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