

Article

THE EFFECT OF VISUAL DISTRACTION TECHNIQUE BY WATCHING CARTOON FILMS ON ANXIETY LEVELS DURING CIRCUMCISION PROCEDURES IN CHILDREN AGED 5 – 7 YEARS IN CLINIC PARAMEDIKA



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Abstract

Background: Circumcision is a medical procedure commonly performed on children but often triggers significant anxiety. If not properly managed, this anxiety can negatively affect the child's psychological condition and may lead to trauma. Non-pharmacological approaches, such as visual distraction using cartoon films, can serve as an effective strategy to divert the child's attention from invasive procedures.

Objective: To determine the effect of visual distraction in the form of watching cartoon films on anxiety levels in children aged 5–7 years during circumcision procedures.

Methods: This study employed a quasi-experimental design with a pretest-posttest control group approach. A total of 60 boys were selected using an accidental sampling technique and divided into two groups: intervention and control, with 30 respondents in each. Inclusion criteria included children aged 5–7 years scheduled for circumcision, in stable physical and mental condition, able to communicate verbally, and having obtained parental or guardian consent. Anxiety levels were measured using the Spence Children Anxiety Scale (SCAS). Data were analyzed using paired t-test and independent t-test.

Results: The intervention group showed a significant decrease in anxiety levels after receiving the visual distraction ($p = 0.000$). The control group also experienced a decrease in anxiety, though to a lesser extent ($p = 0.001$). The independent t-test on post-intervention data showed no statistically significant difference between the two groups ($p = 0.141$).

Conclusion: Visual distraction through cartoon films has been proven effective in reducing anxiety levels in children aged 5–7 years during circumcision. This intervention can be considered a practical and applicable non-pharmacological alternative in pediatric nursing practice.

Keywords: *visual distraction, anxiety, circumcision, children, cartoon film*

INTRODUCTION

Medical procedures, especially those that are invasive such as circumcision, often cause anxiety in children, especially in the age group of 5–7 years. Anxiety at this age can trigger a physiological stress response and inhibit cooperation during the procedure. According to WHO (2021), untreated anxiety can lead to increased heart rate, blood pressure, and long-term psychological disorders.

National data from the Indonesian Ministry of Health (2023) shows that 68% of children aged 5–7 years experience signs of anxiety when undergoing circumcision. Regional data in West Java even shows a higher figure,

which is 72%. A study in the city of Bandung reported that 75% of children showed high levels of anxiety during circumcision, and many of them refused the procedure for fear of seeing medical devices.

Visual distraction techniques such as watching cartoons have been shown to distract children from fear of medical action. Studies by found that the use of audiovisual materials, including watching cartoon movies, can reduce anxiety in children undergoing pre-circumcision procedures. In addition, it shows that entertaining audiovisual media, such as cartoons, can distract children from their fears and help them stay calm while undergoing pre-circumcision procedures in clinics. (Utami et al., 2025) (Safari and Azhar, 2019) However, studies that specifically examined the 5–7 year old age group while undergoing circumcision are still limited.

Therefore, this study aims to determine the effect of visual distraction techniques using cartoon films on children's anxiety levels during circumcision, to provide recommendations for clinical practice in managing children's anxiety during medical procedures, in the hope of improving the experience and treatment outcomes for children.

METHODE

This study used a quasi-experimental design with a pretest-posttest approach of the control group, carried out at the Paramedical Clinic, Bandung, Indonesia. A total of 60 boys aged 5-7 years were selected through accidental sampling techniques. Inclusion criteria include: (1) scheduled to undergo circumcision, (2) stable physical and mental condition, (3) able to communicate verbally, and (4) have written permission from parents. The intervention group was given a cartoon movie during the circumcision procedure. The control group received standard treatment without visual distraction. Children's anxiety levels were measured using the Spence Children Anxiety Scale (SCAS) instrument before and after the intervention. Higher scores indicate higher levels of anxiety. Data analysis was performed using paired t-tests (to see changes in groups) and unpaired t-tests (to compare between groups) with a significance level of $p < 0.05$.

RESULTS

3.1 Characteristics of Respondents

A total of 60 boys aged 5–7 years who met the inclusion criteria were successfully recruited and divided equally into two groups, namely the intervention group ($n = 30$) and the control group ($n = 30$).

Table 1 Demographic Overview of Respondent Characteristics ($n=60$)

Characteristics	Control n=30 (%)	Intervention n=30(%)	P- value
Respondent			0.513a
Age (Year)	6.07±0.740	5.93±0.828	
Mean ±(SD)	5-7	5-7	
Min-Max			
Parent			0.155b
Education	0	2 (6.7%)	
SD	3 (10%)	5 (16.7%)	
SMP	18 (60%)	12 (40%)	
SMA	1 (3.3%)	5 (16.7%)	
Diploma	8 (26.7%)	6 (20%)	
S1			

Parenting		0.872b
Work	7 (23.3%)	8 (26.7%)
Not Working	14	12 (40%)
Formal	(46.7%)	10 (33.3%)
Workers	9 (30%)	
Non-Formal		
Workers		

Description : ^aIndependent t-test result ; ^bChi-Square Test Results

Analysis of demographic characteristics such as age, parental education level, and parental occupation showed that the two groups had a balanced distribution, with no statistically significant differences. This shows that the basic characteristics between the intervention and control groups are relatively homogeneous, so they do not affect the outcome of the intervention.

3.2 Anxiety Level

Table 2 Levels of Anxiety Before and After Intervention

Group	Mean Difference ± SD	p-value (Paired t-test)
Intervention	2.10 ± 1.65	0,000
Control	0.83 ± 1.26	0,001

Based on the results of the paired t-test in table 2, it is known that there was a statistically significant reduction in anxiety levels in both groups after the intervention, both in the intervention group and in the control group. The intervention group showed a decrease in the average anxiety score of 2.10 ± 1.65 with a value of p = 0.000, while the control group experienced a decrease of 0.83 ± 1.26 with a value of p = 0.001.

Table 3 Comparison of Post-Test Anxiety Levels Between Groups

Group	Mean Post-Test ± SD	p-value (Independent t-test)
Intervention	10.77 ± 4.35	0.141
Control	12.47 ± 4.46	

Based on the results of the independent t-test on the post-test anxiety level between the intervention group and the control group, a value of p = 0.141 (p > 0.05) was obtained. This shows that there was no statistically significant difference between the two groups after the circumcision procedure was performed.

DISCUSSION

4.1 Anxiety Levels Before and After Intervention

Based on Table 2, the results of the study show that the visual distraction technique using cartoon films is effective in lowering anxiety levels in children aged 5–7 years during the circumcision procedure. This can be seen from the significant difference in the mean anxiety score in the intervention group before and after the intervention (p = 0.000), with a decrease of 2.10 points. Meanwhile, the control group also experienced a significant decrease in anxiety (p = 0.001), although only by 0.83 points.

A greater reduction in anxiety in the intervention group suggests that visual distraction techniques by watching cartoon movies are effective in reducing children's anxiety during circumcision procedures. These results are in line with previous research that states that audiovisual media is able to distract children from situations that cause tension, thereby reducing negative emotional responses such as anxiety (Gupta et al., 2021; Safari & Azhar, 2019)

4.2 Comparison of Post-Test Anxiety Levels Between Groups

Based on the results of the statistical test in Table 4, it can be concluded that the zero (H_0) hypothesis is accepted, i.e. there is no difference in the level of anxiety between the intervention group and the control group after the intervention, while the alternative hypothesis (H_1) is rejected.

The results of this study are in line with the findings of Wiwik Utami et al. (2023), which show that the use of visual media, such as animated videos, is effective in reducing children's anxiety when undergoing medical procedures. Visual media is able to distract the child from fear and focus on the ongoing procedure, thus creating a calming effect. In the study, all children received assistance from their parents during the intervention process, which contributed to a significant reduction in anxiety.

In contrast to the research of Wiwik Utami et al., in this study children were not accompanied directly by their parents when the circumcision procedure was carried out. Parental absenteeism may be one factor influencing the insignificant difference in anxiety levels between the intervention group and the control group after the intervention ($p = 0.141$).

The presence of parents often provides a sense of emotional security for the child, which can reinforce the effects of the intervention given. In addition, insignificant results can also be caused by other factors, such as the limited number of samples, the variability of the child's individual character, as well as the influence of the surrounding environment during actions that cannot be completely controlled.

Thus, although the results of statistical tests do not show significance, the effectiveness of the intervention can still be considered practically in the context of pediatric nursing, as it is non-invasive, inexpensive, and easy to implement.

CONCLUSION

Visual distraction techniques using cartoon film media have been shown to be effective in reducing anxiety levels in children aged 5–7 years who undergo circumcision procedures. The results showed a statistically significant reduction in anxiety in the intervention group, with a greater difference in decline than in the control group. Although the comparison between groups at the post-test did not show a statistically significant difference, the clinical effect of this intervention was still meaningful, especially in creating a more relaxed atmosphere comfortable and support the child's psychological calm during the invasive procedure.

This intervention also shows the potential as a non-pharmacological strategy that is easy to implement, safe, and economical, which can be used by health workers, especially nurses, in dealing with children who are anxious or afraid while undergoing medical procedures. This technique not only provides emotional benefits for the child, but can also increase cooperation during the procedure, facilitate the implementation of actions, and reduce the risk of long-term psychological trauma.

Therefore, it is recommended that visual distraction techniques be made part of the standard of pediatric nursing practice, especially in the context of medical procedures that have the potential to cause anxiety in children. Follow-up research is recommended to explore the effectiveness of these interventions when combined with emotional support from parents, as well as to look at their impact in the context of other medical measures besides circumcision.

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