Jurnal Ners
Jurnal Ners
Vol. 15, No. 2, Special Issue 2020
http://dx.doi.org/10.20473/jn.v15i2.18944

Original Research

The Effectiveness of Religious Music and Digital Storytelling on the Level of Cooperativeness and Pain in Children During Invasive Treatment (Children's Room, Zalecha Local Hospital, Martapura)

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ABSTRACT

Introduction: The impact of invasive treatment procedure in children undergoing healthcare in hospital is a trauma since the treatment brings about an uncomfortable feeling. The study aimed at factors in the application of atraumatic care in the form of religious music and digital storytelling given to patients. The study aims to find the difference of effectiveness between religious music and digital storytelling in regard to the level of cooperativeness and pain in children as they undergo invasive treatment

Methods: The design of research was quasi-experiment with time series design. There were two group treatments; the group of intervention 1 consisting of preschool children undergoing invasive treatment via religious music and the group of intervention 2 consisting of preschool children undergoing invasive treatment via digital storytelling.

Results: The statistical test shows p: 1.000 > 0.05, meaning that there is no difference between religious music and storytelling in regard to the level of cooperativeness and pain in children having invasive treatment

Conclusion: Religious music and digital storytelling have similar effectiveness of influence in regard to the change of cooperativeness and pain level in children having invasive treatment.

ARTICLE HISTORY

Received: Feb 27, 2020
Accepted: April 1, 2020

KEYWORDS

religious music; digital storytelling; level of cooperativeness; pain

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Cite this as: Pusparina, I., Maria, I., & Norfitri, R. (2020). The Effectiveness of Religious Music and Digital Storytelling on the Level of Cooperativeness and Pain in Children During Invasive Treatment (Children's Room, Zalecha Local Hospital, Martapura). *Jurnal Ners, Special Issues*, 86-90. doi:http://dx.doi.org/10.20473/jn.v15i2.18944

INTRODUCTION

Hospital planning or emergency processes require children to stay in the hospital undergoing therapy and treatment until return home. Illness and treatment of children in hospitals is often the first crisis that must be faced by children. This is because, due to separation from the environment, children experience unpleasant feelings, such as fear, tension, pain when treated in hospital and loss of control (Sartika, 2013).

Children experience stress and their reaction to stressors varies according to the stage of growth and development. Reaction of pain, stress and trauma in children due to invasive procedures is performed while in hospital. Anxieties of preschool children are shown with anger, regression or silence, bedwetting, rebellion, verbal expression by saying angry words and not cooperating with nurses and assuming that the actions of treatment procedures can threaten the integrity of their body (Zeinomar & Moslehi, 2013).

In the United States, it is estimated that more than 5 million children are hospitalized and more than 50% of that number experience anxiety and stress. (Fabric, 2014) (Sartika, 2013) . Every year, around 1.5 million preschool age children (aged three to six years) are hospitalized due to injury, chronic, congenital or infectious diseases. In Indonesia, based on research data on the islands of Java and Kalimantan (Faradisi, 2012), 30% of 180 children aged 3-12 years have experience with hospitals and an estimated 35 per 1000 children undergo hospitalization.,

Minimizing trauma is one of the basic principles of child nursing, namely the principle of Atraumatic Care or prevention of trauma to children and families.

Atraumatic care services are focused on efforts to prevent trauma that is part of child care by paying attention to cognitive development in preschool age children in the pre-conceptual and intuitive transition phase where children begin to be given understanding, use many words, begin to be able to understand wrong and right and begin to know children's songs and use vocabulary to tell stories combined with music therapy, because music has a therapeutic aspect through stimulation, where the music enters the mind through auditory sensations with a soft voice so as to reduce stress, pain perception, anxiety and feeling isolated (Musbikin, 2009).

Religious music is music that has a calming effect plus its poetry which contains da'wah and spiritual guidance, especially in soft strains with beats 50-70 times per minute. Thus, anyone who listens to religious music will feel calm in their heart, and be encouraged in doing good according to the lyrics that are heard (Vohra et al, 2008). Storytelling is also a therapy to reduce anxiety, intensity of nausea and vomiting in children undergoing chemotherapy, Storytelling is recommended as a therapy to reduce anxiety in school-age children during hospitalization. Storytelling implies telling stories about fairy tales, which are events that did not really occur, especially the events of the past. Digital storytelling is the art of turning stories into multi-media forms that contain a combination of music, film and / or images that are colored with sound (Musbikin, 2009).

Research on religious music therapy and digital storytelling to improve cooperation and reduce pain in children has not been greatly done. If the interventions of religious music therapy and digital storytelling can be applied, it is hoped that children will be more cooperative during invasive actions so as to support the success of the principle of atraumatic care during hospitalization. This will have an impact on speeding recovery and shortening hospital days. (Musbikin, 2009).

MATERIALS AND METHODS

The design of this study is quasi-experiment with time series design, because this study uses treatment or treatment aimed at assessing the influence of an action when compared with other actions, so that the effectiveness of the given treatment is known. The assessment is done before the treatment is given (pre), then the treatment is given four times with each of them being carried out four times (post), each time giving an invasive injection schedule intravenous injection through an IV tube in children.

In this study, two treatment groups were used, namely treatment group 1 and treatment group 2. The treatment group 1 was preschool age children who were given religious music therapy during an invasive action, while treatment group 2 was preschool age children who were given digital storytelling at the time of the invasive action. From this design, the effect of a treatment on the dependent variable will be tested by comparing the condition of the dependent variable in treatment group 1 after being treated with religious music therapy treatment with the treatment group 2 after being treated with digital storytelling.

Research Design Pattern as follows:

O1 x O2 x O3 x O4 x O5
O6 x O7 x O8 x O9 x O10

The population in this study was all children treated in the children's ward Ratu Zalecha Martapura Hospital and, the sampling technique used was purposive sampling, as many as 15 samples per group. Direct data collection by researchers was by direct observation of cooperative attitude using the CBS (Children Behavior Scale) observation instrument sheet in which data were collected on respondents who were given treatment in the form of religious music therapy or digital storytelling, and observation using the Wong-Baker Faces Pain Rating Scale to measure the level of pain along with physiological responses to pulse and respiration.

Data collection tools used in this study were cooperative level observation sheets compiled by researchers referring to the theory and adoption of instruments and observation sheets of the Wong-Baker Faces Pain Rating Scale to measure pain levels.

The distribution of data of each dependent variable was first tested for normality using the Shapiro-Wilk test (number of respondents = 40). Based on the results of the cooperative level normality test, all cooperative value scores $p > 0.05$, which means cooperative values before and after religious music and digital storytelling were normally distributed. Whereas, based on the results of the normality test of the level of pain, pulse and breath, all scores of pain, pulse and breath values $p < 0.05$, which means the value of pain, pulse and breath before and after religious music and digital storytelling were not normally distributed. Then the data were transformed. After being transformed, the pain, pulse and breath scores were $p < 0.05$ (still abnormally distributed).

RESULTS

Table 1 shows the results of the study based on the responses of 20 children, giving the characteristics of respondents: Boy 60% and Girl 40%, has never been in hospital 20% and ever been in hospital 80% and for age of the children, the majority already treated was aged 6 years for the religious music treatment group. 20% and ever been in Hospital 80% and for age of the children, the majority which already been treated was aged 6 years for the religious music treatment group.

Table 2 shows the distribution of respondents based on cooperative level before and after religious music and digital storytelling were given, showing the majority of changes in children's cooperative level. Table 3 shows that there is a significant difference in the cooperative value of preschool children after the

Table 1 Characteristics of Respondents

Characteristics	Type of Treatment				Total
	Religious Music		*Digital Storytelling*		
	f	%	f	%	
Gender					
Boy	12	60	11	55	23
Girl	8	40	9	45	17
Experience Cared					
Has never been	4	20	13	65	17
Ever been	16	80	7	35	23
Age					
3 year	4	20	3	15	7
3.5 year	2	10	7	35	9
4 year	4	20	6	25	10
4.5 year	1	5	0	0	1
5 year	3	15	1	5	4
6 year	6	30	4	20	10

Table 2 Distribution of Respondents Based on Cooperative Level Before and After Religious Music and Digital Storytelling Were Given

Treatment	Cooperative Level	Pre	Post1	Post2	Post3	Post4
Religious Music	Cooperative	5 (25%)	12 (60%)	14 (70%)	20 (100%)	20 (100%)
	Not Cooperative	15 (75%)	8 (40%)	6 (30%)	0	0
	Total	20	20	20	20	20
Digital Storytelling	Cooperative	7 (35%)	12 (60%)	16 (80%)	20 (100%)	20 (100%)
	Not Cooperative	13(65%)	8 (40%)	4 (20%)	0	0
	Total	20	20	20	20	20

Table 3 Anova Test Repeated Measure Results of Cooperative Differences After Being Given Religious Music and Digital Storytelling

Source	Sum of Squares	df	Mean Square	f	p
Intercept	77106.645	1	77106.645	793.455	.000
Error	3789.955	39	97.178		
Total	80896.600	40	77203.823		

Table 4 Independent T-Test Results

Variable	Treatment group	Mean	Sd	t	P
Cooperative pre	Religious Music	13.65	4.716	.414	.681
	Digital storytelling	13.00	5.201		.681
Cooperative post 1	Religious Music	15.75	5.056	-2.108	.042
	Digital storytelling	19.25	5.437		.042
Cooperative post 2	Religious Music	19.40	4.070	-.541	.592
	Digital storytelling	20.20	5.217		.592
Cooperative post 3	Religious Music	22.65	3.200	.331	.743
	Digital storytelling	22.20	5.177		.743
Cooperative post 4	Religious Music	25.05	4.124	.220	.827
	Digital storytelling	24.80	4.152		.827

Table 5 Pain Value of the Respondents

Treatment group	Average pain				
	Pre	P1	P2	P3	P4
Religious Music	5,70	4,60	3.30	0,90	0,00
Digital Storytelling	7,60	5,20	3.60	1,90	0,20

Table 6 Distribution of Respondents Based on Pulse Before and After Being Given Religious Music and Digital Storytelling

Treatment	Nadi	Pre	Post1	Post2	Post3	Post4
Religious Music	Normal	8	14	17	20	20
	Not Normal	12	6	3	0	0
Digital Storytelling	Normal	7	12	16	20	20
	Not Normal	13	8	4	0	0
	Total	40	40	40	40	40

treatment of religious music compared with digital storytelling. f (1.39) = 793.455, p = .000.

Table 4 shows at least one difference in effectiveness in the treatment of religious music and

Table 7 Mann Whitney Test Results The Effectiveness of Religious Music and Digital Storytelling on a Child's Pulse

Variable	Treatment Group	Mean Rank	p
Pulse post 1	Religious Music	19.08	.436
	Digital storytelling	21.93	
Pulse post 2	Religious Music	20.23	.881
	Digital storytelling	20.78	
Pulse post 3	Religious Music	20.10	.828
	Digital storytelling	20.90	
Pulse post 4	Religious Music	20.23	.881
	Digital storytelling	20.78	

Table 8 The Mean Respiration Rate of Respondents

Treatment Group	Rata – rata nafas				
	Pre	P1	P2	P3	P4
Religious Music	26,85	25,10	21,95	21,05	20,15
Digital Storytelling	30,95	26,65	22,80	21,80	20,35

Table 9 Friedman Test Differences in Breath Frequency Before and After Being Given Religious Music and Digital Storytelling

Treatment Group	df	X^2	P
Religious Music	3	34,508	0.000
Digital Storytelling	3	46,767	0.000

Table 10 Mann Whitney Test Results of The Effectiveness of Religious Music and Digital Storytelling on the Breath Frequency of Children

Variable	Treatment Group	Mean Rank	p
Breath post 1	Religious Music	17.18	.063
	Digital storytelling	23.83	
Breath post 2	Religious Music	17.83	.106
	Digital storytelling	23.18	
Breath post 3	Religious Music	19.00	.376
	Digital storytelling	22.00	
Breath post 4	Religious Music	19.23	.308
	Digital storytelling	21.78	

digital storytelling (post 1 variable), where p = 0.042 and the average score of religious music is greater than the average score of digital storytelling, so that religious music is more effective in increasing children's cooperation compared to digital storytelling.

Table 5 shows that there was a decrease in the pain value of the respondent after being given religious music and digital storytelling. From Table 6 it can be seen that the majority of changes in the child's pulse are in the normal direction. Table 7 shows that, after the Mann Whitney test, the significance value p> 0.05 was obtained so that religious music and digital storytelling had the same effectiveness on the decline in the child's pulse value.

Table 8 shows that the mean respiration rate of respondents indicated a decreased breath rate after being given religious music and digital storytelling. Table 9 shows the Friedman test differences in breath frequency before and after being given religious music and digital storytelling indicated a significant pulse difference (X2 (3) = 34,508, p <.005) and (X2 (3) = 46,767, p <.005), thus there was a difference in pulse before and after religious music and digital storytelling were given. Table 10 shows the Mann Whitney test results on the effectiveness of religious music and digital storytelling as regard the breath frequency of children. The results obtained significance value p> 0.05, thus religious music and digital storytelling have the same effectiveness on the decrease in the frequency of the child's breath.

DISCUSSION

Child care shows that one way to make children more cooperative is to prepare the psychological condition of the child before nursing action, as well as religious music interventions in that the majority of changes occur in a cooperative direction after being given religious music. The p value is0.042 and the average score of religious music is greater than the average score of digital storytelling, so that religious music is more effective in increasing the child's cooperative level compared to digital storytelling. Therapy that aims to help preschool-aged children use good coping mechanisms during the procedure of invasive intravenous injections, includes using music therapy, which is included in complementary therapy (Musbikin, 2009). The use of complementary therapy for pediatrics, according to Kemper et al., is highly recommended because it can support healing of the disease, reduce stress and fear of the child undergoing treatment programs (Vohra, Kemper, & Walls, 2008). Cognitive development in preschool age children is in the pre-conceptual and intuitive transition phase where children begin to be given understanding, use many words, begin to understand wrong and right and begin to know children's songs and use vocabulary to tell stories (Musbikin, 2009).

Music therapy is part of complementary therapy used in the health sector to evaluate and treat patients with emotional, physical, cognitive and social functioning disorders (Wahyuni Sri N, n.d.). In her book Holistic Nursing, Barbara Dossey (2007) emphasized that music therapy is one of the scientific branches of nursing used as nursing therapy because music has a therapeutic aspect by encouraging stimulation, whereby the music enters the mind through auditory sensation with sound softs so that it can reduce stress, pain perception, anxiety and feelings of isolation. This is because the study found that the nerve of the music successor and the nerve of the pain successor are the same (Musbikin, 2009). This is reinforced by the results of research by (Wahyuni Sri N, n.d.) that there is an effect of music therapy on reducing anxiety levels of school-age children with a value of p = 0.000 and an average decrease in anxiety levels of 4.05. Digital storytelling is the art of changing stories into multi-media forms containing a combination of music, film and / or images that are colored with sound. It is suitable to be applied in hospitals, especially for children who have injection action. This therapy does not require excessive energy for its implementation because children only need to listen to stories while lying down and using their imagination (Snyder, 2010). Digital storytelling also helps children realize that other children have problems similar to their own, stimulates discussion, fosters thoughts and self-awareness, discovers coping skills and possible solutions, and decides on constructive action programs (Davies, 2010).

CONCLUSION

Based on the results of research, it can be concluded that: The majority of respondents are male and the majority have been hospitalized before, there is an increase in the cooperative level of children after being given religious music, There is an increase in the cooperative level of children after being given a digital storytelling, there is a decrease in the level of pain in children after being given religious music and a decrease in the level of pain in children after being given digital storytelling. There are differences in the effectiveness of religious music and digital storytelling in regard to the cooperative level of preschool children when given invasive measures whereby religious music is more effective in increasing children's cooperation. There is a difference in the effectiveness of religious music and digital storytelling on the pain level of preschool children when given invasive measures whereby religious music is slightly more effective in reducing children's pain.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ACKNOWLEDGEMENT

The author of this study would like to thank the Respondents, Nurses and Doctors in the children's room Ratu Zalecha Martapura Hospital. Finally, the authors also thank INC 11th 2020 Surabaya for providing the opportunity to present and publish the valuable findings from this study

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