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THE EFFECT OF MUSIC THERAPY ON AGGRESSION LEVELS IN SCHIZOPHRENIC PATIENTS

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ABSTRACT
This study aims to determine the effect of music therapy on the level of aggression in schizophrenia patients. The research method used was quasi-experimental with one group pre-test and post-test design. A total of 25 respondents were selected using accidental sampling techniques. The intervention was given in four music therapy sessions with a gradual duration of between 30 to 45 minutes per session. The level of aggression was measured using the Buss and Perry Aggression Questionnaire. The Relationship Between Cognitive Function and Aggression in Schizophrenia Patients (Indonesia, 2023). This study was conducted at Ernaldi Bahar Hospital in Palembang and used the BPAQ to measure aggression and the MoCA-Ina to assess cognitive function. The results showed a significant negative relationship between cognitive function and aggression ($p = 0.04$; $r = -0.340$), meaning that a decline in cognitive function is associated with increased aggression in schizophrenia patients. Multivariate analysis showed that cognitive function scores influenced aggression scores ($R^2 = 0.207$; $\beta = -0.730$; $p = 0.005$).The results of the analysis showed a significant decrease in aggression levels after the administration of music therapy. A statistical test using the Wilcoxon Test yielded a P-value of < 0.001, which indicates that music therapy has a significant effect on reducing aggression levels in schizophrenic patients.

Keywords: aggression; music therapy; schizophrenia

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INTRODUCTION

Schizophrenia is one of the severe mental disorders that is chronic and can affect the quality of life of sufferers. According to Kusumawardani (2022), people with schizophrenia experience hallucinations, illogical thoughts, delusions that can trigger aggressive behavior, and often hysterical screaming. Although symptoms can differ between individuals, people with schizophrenia generally exhibit behavior that deviates from normal behavior. Hidayati et al. (2023) states that schizophrenia affects about 23 million people worldwide, with the main symptoms being hallucinations and delusions.

Based on World Health Organization data Mental Health of Adolescents. World Health Organization (2021), as many as 24 million people in the world suffer from schizophrenia, and about 60% of them experience aggressive episodes. Data from the Soeharto Heerdjan Psychiatric Hospital Jakarta shows that 45% of schizophrenic patients exhibit aggressive behavior that interferes with the therapy process. The World Health Organization also reports that nearly 1 in 300 people (about 0.32% of the global population) have schizophrenia (WHO, 2022).

In Indonesia, Riskesdas (2018), recorded a prevalence of schizophrenia or psychosis of 6.7%, with the distribution in urban areas of 6.4% and in rural areas of 7.0%. Although the coverage of treatment has reached 85%. Ministry of Health (2019), Schizophrenia remains a disease that is difficult to cure with a high recurrence rate, although it can be controlled through pharmacological and non-pharmacological therapies.

Adolescence is an important transitional phase in an individual's life, characterized by the search for identity, emotional instability, and aggressive tendencies (Aulia et al, 2022). Social pressures and internal conflicts during this time can trigger aggressive behavior both verbally and nonverbally (Isnaini, 2021). Schizophrenia in adolescents causes disturbances in interpreting reality that affect cognition, emotions, and behavior (Chandra & Kartika, 2019). This condition has a major impact on their development and quality of life. Therefore, early identification and appropriate treatment are very important (Peristianto & Lestari, 2018).

Data from the Soeharto Heerdjan Psychiatric Hospital Jakarta shows that 45% of schizophrenic patients exhibit aggressive behavior that interferes with the therapy process. Data from RSSH Jakarta shows an increase in the number of schizophrenic patients from 767 people in 2022 to 934 people in 2023. In the children's and adolescent wards, the number of patients increased from 74 people in 2023 to 86 people in 2024. Most patients are treated for exhibiting aggressive behavior (RSSH, 2024). This suggests that aggressiveness is a significant clinical problem among adolescent schizophrenic patients. According to Malfasari (2020), as many as 36.1% of adolescents experienced mental emotional conditions in the abnormal category, 28.7% in the borderline category, and only 35.2% were classified as normal. This shows that mental disorders in adolescents are quite high and have the potential to cause aggressive behavior, especially in adolescents with schizophrenia.

One of the promising nonpharmacological approaches in reducing aggressiveness is music therapy. Music has an emotional closeness to teenagers, as expressed by Yosephine (2019) which states that teenagers spend a lot of time listening to music or watching music videos, making music a potential therapeutic medium. Faruk Ibrahim (2023), states that music therapy can provide a relaxation effect, calm emotions, educate through ethical values, and even enhance spirituality and aid in psychological healing. Hertinjung & Kamala (2020), adding that music therapy is safe to use because it does not cause side effects like drugs, so it is very suitable to be applied as a non-pharmacological therapy in people with schizophrenia. Hartanti & Purnomo (2023), states that schizophrenic patients who previously had difficulty distinguishing real sounds and hallucinogenic sounds, after undergoing music therapy showed improved concentration and the ability to distinguish sounds.

Music therapy has been shown to lower aggressive behavior in patients with mental disorders in several countries. However, research on the effectiveness of music therapy, especially in schizophrenia patients in Indonesia, especially at Soeharto Heerdjan Hospital in Jakarta, is still limited. Therefore, this study was conducted to test the effect of music therapy on the level of aggressiveness of adolescent schizophrenia patients at RSSH Jakarta. Based on the above background, the researcher was inspired by previous research to conduct a research. Genaral Purpose to determine the effect of music therapy on the level of aggression in schizophrenia patients at Soeharto Heerdjan Hospital, Jakarta. Special Purpose identify the level of aggression of patients with schizophrenia before receiving music therapy,to identify the level of aggression of patients with schizophrenia after receiving music therapy, analyzing the effect of music therapy on aggression levels in Schizophrenia patients at Soeharto Heerdjan Hospital Jakarta

METHOD

This reseach is a quantitative research using a design Quasy Experimental. Design Quasy Experimental This is applied with the design pre test - post test with one group design, namely the design to find a causal relationship by involving 1 group, namely the intervention group, without using a control group. The intervention group was the study respondents were people with schizophrenia who were given music therapy interventions. This research uses the "quasi experiment pre-post test" with therapeutic interventions. The study was conducted to determine the level of aggression in schizophrenia patients before and after being treated in the form of music

therapy. The researcher took pre- and post-treatment measurements with questionnaires and observations (Nursalam, 2020).

This study was conducted on child and adolescent patients with Schizophrenia who were treated in the inpatient room of children and adolescents at Soeharto Heerdjan Hospital Jakarta who experienced aggression. Data was collected from May to June 2025. The number of inpatients for children and adolescents at Soeharto Heerdjan Hospital Jakarta at the time of the study amounted to 47 patients. Sampling in this study was done using the Accidental Sampling technique so that 25 respondents met the inclusion criteria of the study. This study aims to determine the effect of music therapy on the level of aggression in Schizophrenia patients at Soeharto Heerdjan Hospital, Jakarta. This music therapy intervention was carried out to each respondent for 4 sessions for a duration of 30 – 45 minutes in each session for 4 consecutive days. Before music therapy, respondents were asked to fill out a pre-test questionnaire on the first day. The results of the pre-test aim to determine the level of aggression of the respondent before being given music therapy. After the respondents filled out the pre-test, then the researcher gave 1 session of music therapy to the respondents for 30 minutes. Session 2 is given on day 2 for 35 minutes, session 3 is given on day 3 for 40 minutes, and continued session 4 is given on day 4 for 45 minutes. Music therapy is given for 20 minutes persession, the remaining time is used for discussion and exploration of respondents' feelings. The addition of time in each session is due to the interpersonal relationship between respondents and researchers increasing day by day. After the 4th day of music therapy, then at different hours, respondents were asked to fill out a post-test questionnaire. The post-test results aim to determine the level of aggression of the respondents after music therapy for 4 sessions. The Relationship Between Cognitive Function and Aggression in Schizophrenia Patients (Indonesia, 2023)

This study was conducted at Ernaldi Bahar Hospital in Palembang and used the BPAQ to measure aggression and the MoCA-Ina to assess cognitive function. The results showed a significant negative relationship between cognitive function and aggression ($p = 0.04$; $r = -0.340$), meaning that a decline in cognitive function is associated with increased aggression in schizophrenia patients. Multivariate analysis showed that cognitive function scores influenced aggression scores ($R^2 = 0.207$; $\beta = -0.730$; $p = 0.005$). The questionnaire was filled out directly by the respondents accompanied by the researcher, the data that had been collected was then processed using SPSS version 27. The results of this data Wilcoxon test analysis arehe basis for compiling conclusions which can be seen below.

RESULT

Table 1.
Characteristics by Age

Age	f	%
12	1	4 %
14	6	24 %
16	5	20 %
17	7	28 %
18	6	24 %

Based on the results of table 1.1, it can be concluded that the most respondents in this study are 17 years old with a percentage of as many as (28%).

Table 2.
Characteristics by Sex

Gender	f	%
Man	13	52
Woman	12	48

And based on table 2, the male gender is more than the female with a percentage (52.0%).

Table 3.
Frequency Distribution of Respondents' Aggression Levels Before Music Therapy Intervention (*Pre-Test*)

Category	f	%
Normal	0	0 %
Light	3	12,0 %
Keep	21	84,0 %
Height/ Weight	1	4,0 %

Based on table 3, it can be concluded that the level of aggression in 25 pediatric and adolescent schizophrenia patients before being given music therapy intervention was the majority in the moderate category (84.0%).

Tabel 4.
Descriptive Statistics Pre-Test

	N	Min	Max	Mean	Hours of deviation
Pre-Test	25	44.00	87.00	70.9600	10.14265
Valid N (listwise)	25				

Based on table 4, it can be concluded that the level of aggression in 25 respondents with a minimum score of 44 and a maximum score of 87, with an average *pre-test score* of 70.96

Table 5.
Frequency Distribution of Respondents' Aggression Levels After Music Therapy Intervention (*Post-Test*)

Category	f	%
Normal	0	0
Light	9	36
Keep	16	64
Height/Weight	0	0

Based on table 5, it can be concluded that the level of aggression in 25 pediatric and adolescent Schizophrenia patients after being given music therapy intervention was mostly in the moderate category (64.0%).

Tabel 6.
Descriptive Statistics Post-Test

	N	Min	Max	Mean	Hours of deviation
Post-Test	25	38.00	72.00	57.9200	9.68642
Valid N (listwise)	25				

Based on table 6, it can be concluded that the level of aggression in 25 pediatric and adolescent Schizophrenia patients after being given music therapy intervention was obtained with a minimum value of 38 and a maximum value of 72 with an average of 57.92.

Analyzes Bivariate

The bivariate analysis in this study aims to determine the effect of music therapy on the level of aggression in Schizophrenia patients at Soeharto Heerdjan Hospital Jakarta. The success rate of music therapy intervention can be seen from the results of the comparison between *pre-test* and *post-test scores,* whether it has a significant effect or not. The data used in this study is ordinal or categorical data, so there is no need to carry out a normality test. The data analysis in this study used *the Wilcoxon test*. The following will be explained the results of *the Wilcoxon* test, with the following results:

Uji *Wilcoxon*

The *Wilcoxon* test was carried out to find out whether there was an average difference between two paired samples. The research data used in the *Wilcoxon* test is ideally data that is abnormally distributed. The *Wilcoxon* test or called *the wilcoxon signed rank* is part of the non-parametric

statistical method. The results of the *calculation of the Wilcoxon* test can be clearly seen in table 7. The brief overview is as follows:

Table 7.
Wilcoxon Test Rank

		N	Mean Rank	Sum of Ranks
Post_Test - Pre_Test	Negative Ranks	25a	13.00	325.00
	Positive Ranks	0b	.00	.00
	Ties	0c		
	Total	25		

a. Post_Test < Pre_Test
b. Post_Test > Pre_Test
c.Post_Test = Pre_Test

Based on table 7 it can be known:

1. Negative Rank or the difference between the level of aggression for *pre-test* and *post-test* with the Mean Rank or average decrease is 13.00. Meanwhile, the number of Sum of Ranks is 325.00.
2. Positive Rank or the difference between the level of aggression for *pre-test* and *post-test* is 0 in both N, Mean Rank and Sum of Ranks. A value of 0 indicates no increase in *pre-test* and *post-test scores*.
3. Ties are the similarity of *pre-test* and *post-test values*. It can be seen that the Ties value of the above results is 0 which means that there is no equal value between *the pre-test* and *the post-test.*

Uji Hypothesis

Table 8.
Wilcoxon Test Results

Test Statistics[a]

	Post Test - Pre Test
With	-4.377b
Asymp. Sig. (2-tailed)	.000

a. *Wilcoxon Signed Ranks Test*
b. *Based on positive ranks.*

Based on table 7, it can be seen that *the value of Asymp.Sig* 0.000 is smaller than 0.05. The value (*Asymp.Sig* 0.000< 0.05) then the hypothesis is accepted, which means that there is an average difference between two paired samples.

The Effect of Music Therapy on Aggression Levels in Schizophrenic Patients

Table 9.
Analysis of the Effect of Music Therapy on Aggression Levels in Schizophrenic Patients

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Hours of deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Pre_ Test	25	43.00	44.00	87.00	70.9600	2.02853	10.14265	102.873
Post_ Test	25	34.00	38.00	72.00	57.9200	1.93728	9.68642	93.827
Valid N (listwise)	25							

Based on table 9, there was a significant decrease in the level of aggression as evidenced by a decrease in the average *pre-test* score from 70.96 to 57.92 at the *time o f the post-test*.

DISCUSSION

Aggression Level Before Intervention (Pre-test)

Based on the results of the study in table 4, regarding the level of aggression Pre-test Music therapy in Schizophrenia patients at Soeharto Heerdjan Hospital before the intervention was carried out, the level of aggression was obtained in the high/heavy category and the medium category. Aggression levels are emotions characterized by feelings of tension, anxious thoughts, and physical changes

such as increased blood pressure. People who experience aggression usually have thoughts or problems that bother them repeatedly (Kristiananda, A. D., 2016). This study is in line with research conducted by Hartini et al., (2021) that the level of respondents' aggression before the intervention of music therapy in 25 respondents experienced a moderate level of aggression with an output value of 70.96. The results of research conducted by researchers on the effect of music therapy on the level of aggression in Schizophrenia patients found that the level of aggression in Schizophrenia patients before intervention was high/severe and moderate aggression levels. The level of aggression experienced by patients before music therapy intervention is such as emotional distress, irritability and sometimes hitting their friends.

Aggression Level After Intervention (Post-test)

Based on the results of the study in table 5, regarding the post-test of music therapy in Schizophrenia patients at Soeharto Heerdjan Hospital. After the intervention, the level of aggression decreased, the level of aggression was obtained and the level of mild aggression was obtained. This research is in line with the results of research conducted by Anggoro, (2025). It showed that a total of 25 respondents experienced a decrease in the level of aggression after music therapy intervention from an average of 70.96 after music therapy intervention decreased to 57.92. The Ghibli Music Therapy used is instrumental music, which is music used as a soundtrack Japanese animated film produced by the Ghibli studio. According to Hartanti, (2023) Several studies have suggested that music therapy can provide positive results in improving function and reducing symptoms of schizophrenia in patients. Before undergoing music therapy, patients with schizophrenia are often seen moving their lips without sound and have difficulty distinguishing between real and unreal sounds. They tend to focus on hallucinating sounds, are often distracted, and hear repetitive whispers as well as high-intensity pressing sounds. However, after undergoing music therapy, even though the patient still occasionally moved their lips silently, they were able to distinguish (Hartanti, 2023).

Researchers concluded that the level of aggression in schizophrenic patients is a significant problem and can affect their lives, high workloads, social demands, and uncertainty about the future are often the main triggers of aggression in patients. This study also shows that aggression can negatively impact concentration, productivity, as well as affect the emotional state of patients. If left untreated, this condition will develop into a more serious psychological problem. Therefore, researchers conducted research on music therapy, with this research the level of aggression can be reduced, so that they can be more optimal in living life.

The Effect of Music Therapy on the Level of Aggression after Pre-test and Post-test

Based on the results of the study in table 1.7, conducted at Soeharto Heerdjan Hospital Jakarta shows that before the music therapy intervention and after the intervention there was a decrease in the level of aggression. Therefore, it can be concluded that Ho was rejected and Ha was accepted, so it can be interpreted that there is an influence of music therapy on the level of aggression in Schizophrenia patients at Soeharto Heerdjan Hospital in Jakarta. This research is in line with the results of research conducted by Ike Prafita Sari et al., (2023) using the Wilcoxon statistical test obtained a value of Z= -3.725 with a significance of 0.000 ($p<0.05$). Ha's decision was accepted, which means that there is an influence of music therapy on the level of aggression. From the results of this study, it can be seen that the results of the pre-test and post-test output of the aggression level in the respondents were 70.96 > 57.92. Which means music therapy is effective in lowering aggression levels. Rahmayati et al., (2022) revealed that music therapy can be used as an alternative to psychological therapy that impacts a person's physical, cognitive, and emotional condition. Music therapy can be used as a major component of therapy. It can also be used in conjunction with other counseling or psychotherapy methods, and can also be done individually or in groups. as a psychological therapy that has an impact on a person's physical, cognitive, and emotional condition. Based on the analysis and intervention for 4 days, it can be concluded that there is an effect of music therapy on the level of aggression in Schizophrenia patients at Soeharto Heerdjan Hospital

Jakarta. It is evidenced by the addition of time in each subsequent session, as for the addition of this time during exploration and discussion with respondents.

CONCLUSION

The level of aggression in Schizophrenia patients before music therapy intervention was predominantly in the moderate category (84%), and only a small part in the mild (12%) and severe/high (4%) categories. The level of aggression in Schizophrenia patients after music therapy intervention was mostly in the category of moderate aggression level (64%) and a small percentage were in the category of mild aggression level (36%) and there was no severe/high level of aggression (0%). There was a significant influence between aggression levels before and after music therapy interventions, with a P-value of <0.001. In this case, music therapy intervention therapy is effective in reducing the level of aggression, both emotional and psychological.

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