

Article

Effectiveness of Classical Music Therapy on Decreasing the Level of Auditory Hallucinations in Schizophrenia Patients

Fiki Muhammad Ridho¹ 

¹Faculty of Dental Medicine, Universitas Airlangga, Surabaya, Indonesia

Abstracts

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Correspondence Author:
Email: fikimuhammadridho@gmail.com

Introductions: Hallucinations are one of the symptoms most often experienced by schizophrenia patients. Auditory hallucinations affect about 70% of schizophrenia patients who experience hallucinations. Classical music therapy is one of the non-pharmacological interventions that can be done. Music can be a non-pharmacological therapy option because it can improve, restore, and maintain physical, mental, emotional, social, and spiritual health. **Objectives:** This study aims to discuss further the effectiveness of classical music therapy in reducing the level of auditory hallucinations in schizophrenia patients. **Methods:** This study uses the literature review method by searching research data on the Google Scholar database. Results: Based on the data search result, eight journals were studied in this study. **Discussions:** The results found in 8 journals stated that classical music therapy as a non-pharmacological therapy can reduce the intensity of auditory hallucinations in schizophrenia patients. Classical music can evoke changes in important neuromodulators such as dopamine, endorphins, endogenous cannabinoids, and nitric oxide so that the administration of classical music therapy can eliminate the neurotransmitters of depression, stress, and anxiety and can suppress the symptoms of hallucinations, including auditory hallucinations. **Conclusions:** This study concluded that classical music therapy is effective in reducing the level of auditory hallucinations in schizophrenia patients.

Keywords: Classical music therapy, Hallucinations, Schizophrenia

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Introductions

Schizophrenia is a mental disorder that affects the brain and causes thought patterns, general appearance and behavior disturbances, speech disorders, behavioral disturbances, perceptual disturbances, affective disturbances, and thought disturbances [1,2]. According to the World Health Organization (WHO), schizophrenia affects 24 million people worldwide. In Indonesia, the prevalence of schizophrenia has increased from 1.7 per million in 2013 to 6.7 per million in 2018 [3,4].

One of the symptoms in schizophrenia patients is hallucinations, namely sensory experiences without an apparent stimulus (object) from outside the patient. One of the most common hallucinations is auditory hallucinations. Auditory hallucinations are hallucinatory voices that continuously comment on the patient's behavior, discussing the patient's condition among the various agents or other types of sounds from one part of the body [5]. It is estimated that more than 90% of schizophrenia patients experience hallucinations [6], and 70% experience auditory hallucinations [7].

Hallucinations can be treated with pharmacological and non-pharmacological therapy. One of the non-pharmacological therapies that can be done is music therapy. Music can cure disease and improve one's mental abilities [8]. Music can be a non-pharmacological therapy option because it can enhance, restore, and maintain physical, mental, emotional, social, and spiritual health. Music therapy is readily accepted by the auditory organs, and then through the auditory nerve, it is channeled to the limbic system, which is the part of the brain that processes emotions [9]. The use of classical music as a non-pharmacological therapy is also able to increase the brain's information processing capacity. Music stimulation can increase activity in brain structures usually associated with the brain's affective circuits. This effect was observed in the insula, cingulate cortex, prefrontal cortex, hippocampus, amygdala,

and hypothalamus [10].

Music positively affects various aspects of human life, such as physiological functioning, quality of life, and psychosocial functioning, and music therapy is recognized to reduce the symptoms of several disorders, such as schizophrenia and chronic psychosis [11]. Classical music can improve concentration, memory, and spatial perception. Alpha brain waves characterize feelings of calm and awareness, whose waves range from 8 to 13 hertz. The slower the brain waves, the more relaxed, satisfied, and peaceful the patient will feel. If a person is daydreaming or in a condition wherein an emotional or unfocused mood, then classical music can help strengthen awareness and improve one's mental organization if listened to for 10 to 15 minutes [12].

From the description above, the researcher is interested in further discussing the effectiveness of classical music therapy in decreasing auditory hallucinations in schizophrenia patients.

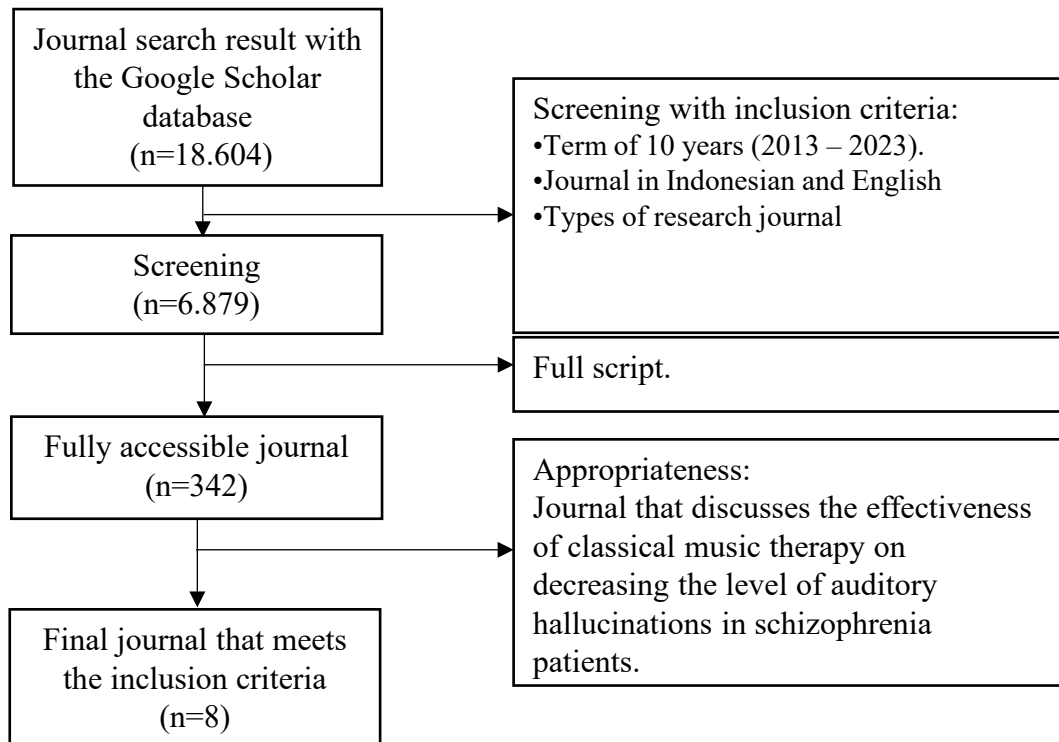
Methods

This type of research is a literature review, a series of literature studies on collecting library data. The research object is taken through library sources without the researcher having to go into the field to find the necessary data [13]. The data collection method is to collect secondary data from various sources, such as books, scientific journals, reports, and others [14]. The database source used in this study is Google Scholar, with the stages of literature review described by the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method.

Screening of research data is carried out to select research problems that are appropriate to the topic of the problem to be discussed. At screening, the researcher determined the inclusion and exclusion criteria. Inclusion criteria include journals with a period of 10 years (2013-2023), journals in Indonesian or English, and the type of journal that is a

research journal. Meanwhile, the exclusion criteria included in vitro research, research on experimental animals, and research with only abstracts.

PRISMA Flow Diagram



Results

The search for research data was carried out through the Google Scholar database. The search used the keywords “music therapy in schizophrenia patients,” “classical music for schizophrenia patients,” “hallucinations in schizophrenia patients,” “auditory hallucinations,” and “schizophrenia” and obtained a total of 18,604 journals. The search results obtained are then filtered by looking at the inclusion criteria, which include journals with a period of 10 years (2013-2023), Indonesian or English language journals. The type of journal is a research journal, so the results obtained are 6,879 journals. In further screening, the re-

searcher re-filtered the findings by only taking the full manuscript literature and not only containing the abstract. Then, the results obtained from the screening were 342 journals.

Subsequent research data must be determined, which will be carried out by reviewing the literature and looking at the feasibility of these literary sources. The researcher only took data on the effectiveness of classical music therapy in decreasing auditory hallucinations in schizophrenia patients. The research data findings that meet eligibility are eight journals, which are then analyzed using critical appraisal analysis to analyze the core journals and study results

No.	Researcher	Result
1	Selma Bozkurt Zincir, Serkan Zincir, Aynil Yenel, Yigit Kivilcim, Bugra Cetin, Cumhur Tulay, Umit Basar Semiz (2014)	After being given classical music therapy, using the Positive and Negative Syndrome Scale (PANSS), the results were obtained in the control group from 106.43 to 88.63 and in the therapy group from 105.13 to 81.20. In the measurement using the Clinical Global Impression (CGI) score, the results were obtained in the control group from 5.27 to 3.43 and in the therapy group from 5.53 to 2.60. Classical music therapy can also improve the psychological function, interpersonal relationships, and mental health status of schizophrenia patients, decrease depression and anxiety, and decrease the intensity and frequency of hallucinations.



2	Dian Anggri Yanti, Abdi Lestari Sitepu, Kuat Sitepu, Pitriani, Wina Novita Br. Purba (2020)	The results of this study indicate the frequency and percentage of music therapy in decreasing the level of auditory hallucinations. Before being given classical music therapy, the average was 4.32, and the standard deviation was 0.646. After being given classical music therapy, the average was 1.68, and the standard deviation was 0.568.
3	Rafina Damayanti, Jumaini, Sri Utami (2014)	There was a difference between the results of the pretest and posttest. There was a decrease in the average pretest and posttest scores given classical music therapy, from 3 to 2. It can be concluded that there was a decrease in auditory hallucinations in the experimental group. The test results in the control group not given classical music therapy showed no significant difference between the pretest and posttest.
4	Elena Ivanova, Tzvetina Panayotova, Ivan Grechenliev, Bogomil Peshev, Penka Kolchakova, Vihra Milanova (2022)	Music therapy can evoke memories, emotions, and feelings accordingly. The effect of music therapy is related to changes in the patient's physiology and behavior. Therefore, music therapy can affect the interaction between mental states and homeostasis in individuals. In schizophrenia patients, music therapy can complement pharmacological therapy through a synergistic effect when combined with psychopharmacological therapy.
5	Yi-Nuo Shih, Chi-Sheng Chen, Hsin-Yu Chiang, Chien-Hsiou Liu (2013)	Before being given music therapy, the control group had an average visual attention score of 53.43, and after being given therapy in a quiet environment, it became 57.29. The first experimental group, before classical music therapy, was given an average visual attention score of 58.36, and after being given classical music therapy, it was 64.00. The second experimental group, before being given therapy, had an average visual attention score of 55.06, and after being given pop music therapy, it became 62.00. The control group showed no significant difference. The two experimental groups significantly differed in that the patient could concentrate, thereby increasing attention performance, which distracted auditory hallucinations.
6	Wuri Try Wijayanto, Marisca Agustina (2017)	The results showed that the difference in the average score before and after classical music therapy was 5.200, with a standard deviation of 2.882. So, it can be concluded that there is a difference between the signs and symptoms of auditory hallucinations or classical music therapy's effectiveness in decreasing the signs and symptoms of auditory hallucinations.
7	Madepan Mulia, Meilisa, Dewi Damayanti (2021)	The study results showed differences in hallucination scores before and after being given classical music therapy, namely from 8.5 to 3.5, with a difference of 5.
8	I Wayan Candra, I Gusti Ayu Ekawati, I Ketut Gama (2014)	Classical music therapy has a major impact on schizophrenia patients with symptoms of aggressive behavior, namely at a mild level from none (0%) to 12 people (80%). At the moderate level, as many as 11 people (73.3%) become three people (20%) at a severe level, from 4 people (26.7%) to none (0%).

Discussions

Classical music therapy can decrease the intensity of hallucinations in schizophrenia patients [8,11,15–17]. In the study by Damayanti et al., the results showed that the number of respondents in the experimental group before being given classical music

therapy with moderate levels of hallucinations was 15 people (88.2%). After being given classical music therapy, the level of moderate hallucinations was eight people (47.1%) [8]. Wijayanto and Agustina's research showed that as many as 30 respondents experienced auditory hallucinations,



27 respondents had experienced a decrease in signs and symptoms of hallucinations, and only three respondents did not experience a decrease in signs and symptoms of hallucinations [15]. In the research journal Mulia et al., the results were found that the hallucination score was at an average rate of 8.5 before being given classical music therapy. After being given classical music therapy, it became an average of 3.5, with a difference of 5, indicating a decreased hallucination level [17].

A study conducted by Zincir et al. stated that giving Turkish classical music therapy for 12 hours and given for four weeks obtained results based on the PANSS scale, namely in the control group, it had a value from 106.43 to 88.63. Whereas in the therapy group, the results were from 105.13 to 81.20. Based on the CGI score in the control group, the results were from 5.27 to 3.43. Whereas in the therapy group, the results ranged from 5.53 to 2.60 [11]. Yanti et al., in their research, it was found that auditory hallucinations before being given classical music therapy with a sample of 22 people obtained an average of 4.32 with a standard deviation of 0.646, and after being given classical music therapy, an average of 1.68 with a standard deviation of 0.568 which indicates the effect of classical music therapy on decreasing auditory hallucinations in schizophrenia patients [16]. In addition, giving classical music therapy to schizophrenia patients also significantly impacts schizophrenia patients with symptoms of aggressive behavior. This is in accordance with the results of research conducted by Candra et al., which obtained results at a mild level from none (0%) to 12 people (80%), at a moderate level of 11 people (73.3%) to 3 people (20%), and a severe level from 4 people (26.7%) to none (0%) [18].

Schizophrenia patients with auditory hallucinations will experience discomfort caused by the sounds they hear, so patients will withdraw from the environment and people around them [19]. Therefore, giving

classical music therapy in different places, such as in a quiet and bright room, will make the patient feel comfortable and able to interact with other people so that from these activities, the patient becomes active and can divert auditory hallucinations [11,20,21]. The use of classical music as a non-pharmacological therapy is also able to increase the brain's information processing capacity. Processing musical stimuli increases activity within brain structures normally associated with the brain's affective circuits. This effect was observed in the insula, cingulate cortex, prefrontal cortex, hippocampus, amygdala, and hypothalamus. In addition, music can evoke changes in the levels of essential neuromodulators such as dopamine, endorphins, endogenous cannabinoids, and nitric oxide [10].

Auditory hallucinations are hallucinations experienced by about 70% of schizophrenia patients who experience hallucinations [7]. Patients usually listen to sounds that call them or tell them to do something, so patients who experience auditory hallucinations are often angry, screaming, scared, confused, looking restless, and uneasy [2,5]. Classical music therapy is a relaxation technique and is appropriate for schizophrenia patients who experience auditory hallucinations and can feel calm, decrease aggressive symptoms, control emotions and spiritual development, and help heal psychological disorders [10,18,19]. Music therapy has a calming effect on the patient [19]. This is by the explanation of Djohan, which explains that the ability of the nerves to capture acoustic products, which the body then responds to by transmitting music waves to the limbic system, and limbic and autonomic nerves create a relaxed, safe, and pleasant atmosphere which can stimulate the release of Gamma-aminobutyric Acid (GABA), enkephalin or beta-endorphins which can eliminate the neurotransmitters of stress and anxiety which are replaced with a sense of calm and improve mood [22].

In the research by Mulia et al., it was

stated that schizophrenia patients who experience auditory hallucinations have the characteristics of hearing whispering sounds, expressing annoyance, being alone, day-dreaming, having poor concentration, being suspicious, and looking in one direction. In addition, the patient will also appear confused, embarrassed, look down, lack concentration, and be anxious. With classical music, these symptoms can be decreased [17]. This is because music is involved in many cognitive functions, including information processing, attention, language, memory, and executive functions. Thus, there will be benefits for a patient's mental, emotional, physiological, and social well-being. In addition, music will also suppress anxiety, stress, depression, and hallucinatory symptoms, including auditory hallucinations, and make the patient comfortable and calm [10,19,23]

Conclusions

This literature review uses eight reviewed journals. The conclusions from this literature review show the benefits of classical music therapy as a non-pharmacological therapy for auditory hallucinations in schizophrenia patients, which can decrease the intensity of auditory hallucinations. In addition, classical music also has the benefit of reducing anxiety, stress, and depression, making patients comfortable and calm, and improving mood.

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