

Original Article

Examining the effect of music therapy on self-esteem, motivation, and perceived stress levels of outpatients with schizophrenia

Belda Çağlayan,¹ Satı Dil²

¹Community Mental Health Center, Çankırı Public Hospital, Çankırı, Türkiye

²Department Psychiatry Nursing, Çankırı Karatekin University Faculty of Health Sciences, Çankırı, Türkiye

Abstract

Objectives: This quasi-experimental study with a pre- and post-test design without a control group was aimed at investigating the effect of music therapy on the self-esteem, motivation, and perceived stress levels of patients with schizophrenia.

Methods: The study whose sample consisted of 30 patients with schizophrenia who were followed up and treated in a Community Mental Health Center (CMHC) in Türkiye was conducted in 2020.

Results: This study demonstrated that music therapy reduced stress levels and increased self-esteem and motivation levels in patients with schizophrenia ($p < 0.01$).

Conclusion: In line with these results, music therapy should be regularly implemented and integrated into routine therapies at CMHCs and psychiatric clinics.

Keywords: Motivation; music therapy; schizophrenia; self-esteem; stress.

Schizophrenia, a clinical syndrome that mostly affects 1% of the population, begins in early adulthood and impairs the sufferer's cognition, emotions, perceptions, and behaviors. Schizophrenia is a long-term disability that usually begins before the age of 25, and impairs the person's not only interpersonal functionality but also professional functionality. Schizophrenia affects more than 20 million people worldwide. ^[1] In an epidemiological study conducted by the World Health Organization in 10 countries, the prevalence of schizophrenia is reported to range between 0.07 and 0.14. ^[2] In the Türkiye Mental Health Profile study, it is reported that 18% of the general population suffers a mental illness during their lifetime. ^[3] The symptom of affective apathy in schizophrenia is considered an indicator of emotional and motivational impairments. Motivational impairment is the distinguishing feature of func-

tional disability in schizophrenia. Therefore, it is important to address it when patients with schizophrenia are provided with care. ^[4] Motivation problems of different forms are widespread in patients with schizophrenia. If a patient with schizophrenia lacks motivation then it becomes difficult for the patient and the treatment team to reach a functional conclusion. ^[5] In studies conducted on the motivation levels of patients with schizophrenia, it has been indicated that patients' motivation levels are low and that increasing their motivation levels significantly contributes to their recovery. ^[6,7] Patients with chronic psychiatric disorders avoid establishing social relationships, are shamed of their current condition, feel inadequate, have an increased number of negative thoughts, and experience a decrease in self-worth, in other words, a decrease in self-esteem. ^[8] Within this context, it has been determined that prac-

Address for correspondence: Belda Çağlayan, Community Mental Health Center, Çankırı Public Hospital, Çankırı, Türkiye

Phone: +90 376 213 10 98 **E-mail:** beldadmr7234@hotmail.com **ORCID:** 0000-0003-3844-059X

Submitted Date: June 07, 2023 **Revised Date:** January 22, 2024 **Accepted Date:** June 02, 2024 **Available Online Date:** September 05, 2024

Journal of Psychiatric Nursing - Available online at www.phdergi.org



tices aimed at increasing self-esteem heal psychological diseases,^[9] and increase the individual's levels of self-esteem and psychological resilience.^[10]

In patients with schizophrenia, it has been reported that music therapy affects their self-esteem positively, strengthens their self-confidence, enables them to adapt to the external environment more easily, helps them strengthen interpersonal relationships, and increases their level of socialization.^[11]

Among the predisposing and precipitating factors of psychiatric disorders are a hereditary predisposition, the character of the person, stressful living conditions, and stress caused by the environment.^[12]

Listening to various music types that provide peace and tranquility can reduce stress.^[13] Music therapy contributes to the patients by eliminating the stress and troubles they experience in their inner world, affecting their feelings and thoughts positively, improving their social relations, and increasing their self-esteem.^[12]

Music therapy is a non-pharmacological therapy regularly administered to people diagnosed with mental disorders by adjusting musical sounds according to the physiological and psychological effects of the modes of the music.^[14] Music therapy for mental illnesses improves interpersonal relationships and helps the person regain self-confidence by increasing his or her attention and focus. It has also been reported that music therapy leads to a significant improvement in the symptoms of schizophrenia.^[15] Because music therapy increases the motivation of the clients and plays an active role in their treatments, it can be used not only to provide emotional support for the clients but also to relieve their pain, improve their memory and communication, and help them manage stress.^[16] The most commonly used method in traditional Turkish music therapy is passive music therapy. In passive music therapy, the person is mostly in a listening position, and he or she listens to live or recorded music under the guidance of the therapist. Choosing the music played by taking into account the individual's condition and the goals to be achieved ensures that the treatment of the person reaches the right goals. In this type of music therapy, the person listens to relaxing music during the session. While passive music therapy is performed, people are asked to concentrate on the music played and to let themselves go with the flow of the music.^[17] Our review of the literature demonstrated that various studies were conducted on the effectiveness of music therapy on mental illnesses. It also demonstrated that unfortunately, no interventional studies aimed at investigating the relationship between self-esteem, stress level, and motivation levels of patients with schizophrenia and the effect of music therapy on them were conducted. Therefore, the present study was aimed at determining the effects of music therapy applied to patients with schizophrenia

What is presently known on this subject?

- Complementary therapies applied to schizophrenic patients followed in community mental health centers have an important place in the rehabilitation of patients.

What does this article add to the existing knowledge?

- Music therapy method among complementary therapies can have effects of increasing motivation and self-esteem and reducing stress.

What are the implications for practice?

- Music therapy application with intervention research methods can reduce the stress of patients and increase their mental well-being.

on their self-esteem, motivation, and perceived stress levels, which is expected to contribute to the relevant literature and to the database of non-pharmacological methods that have curative and therapeutic effects in the care of patients with schizophrenia.

Materials and Method

Design

This quasi-experimental study with a pre- and post-test design without a control group was aimed at investigating the effect of music therapy on self-esteem, motivation, and perceived stress levels of patients with schizophrenia.

Study Sample

The population of the study consists of schizophrenia patients (n=441) receiving follow-up and treatment at the CMHC in Çankırı province. Through the database of the CMHC, patients meeting the inclusion criteria (n=411) were identified. Pre-tests were administered to volunteers (n=32). Music therapy was applied for duration of 4 weeks. Patients who did not complete all stages of Therese arch during the intervention period (n=2) were excluded from the study, resulting in the completion of the study with 30 patients.

The sample of the present study consisted of patients with schizophrenia who met the inclusion criteria, were monitored and treated in the Community Mental Health Center (CMHC) volunteered to participate in the music therapy program, and completed the three stages of the study by completing the measurement tools completely (n=30). First stage involves completing the scales thoroughly and accurately, the second stage entails attending each session of music therapy, and the third stage involves completing the necessary scales thoroughly both at the conclusion of music therapy and 1 month post-therapy for follow-up. During the study, two patients were excluded from the sample because one patient was prescribed different medication and one patient did not attend music therapy sessions regularly. Therefore, the sample included 30 patients.

In this research, the data collection instruments used were the Personal Information Form, Perceived Stress Scale (PSS), Self-Esteem Rating Scale-Short Form (SERS-SF), and Client Motiva-

tion for Therapy Scale (CMOTS).

In determining the sample size, the Power Analysis and Sample Size statistical package program was utilized. Similar studies with comparable research designs and scales were examined,^[9,18–20] and based on the results of this study, it was determined that in our population of 441 individuals, with a sample size of 30 according to G-power power analysis, our test would have a power of 95%. Hence, the study commenced with a randomly selected 32 patients; however, two patients did not complete every stage of the research, resulting in the study being conducted with 30 patients. Music therapy undergone by the patients participating in the present study consisted of eight sessions, each of which lasted 60 min.

The study was conducted between November 2020 and December 2020. Since the study was carried out during the COVID-19 pandemic, the number of patients planned to include in the control group could not be reached. The inclusion criteria of the study were as follows: being between the ages of 18 and 70, having the insight of the disease, having at least primary school education, having been diagnosed with schizophrenia for more than 3 years, not being in the active episode period, having no hearing problems preventing from listening to music, being able to answer questions independently, having no changes in the medication and doses of the medication during the music therapy, having no organic mental disorder, having no neurological problems, having no communication problems, and being monitored and treated at CMHC.

The hypotheses of the research are as follows:

H01: Music therapy applied to schizophrenia patients does not affect the perceived stress levels of the patients.

H02: Music therapy applied to schizophrenia patients does not affect the motivation levels of the patients.

H03: Music therapy applied to schizophrenia patients does not affect the self-esteem levels of the patients.

Ethical Consideration

The ethics committee approval to conduct the study was obtained from the Çankırı Karatekin University Non-Invasive Research Ethics Committee (decision date: June 16, 2020, decision number: 228). After the ethics committee approval was obtained, permission was obtained from State Hospital (permission number: 64943697-799) where the study was to be conducted. Before the study was started, the patients who agreed to participate in the study were informed about the purpose and scope of the study and their written informed consent was obtained. From the perspective of research ethics, the volunteers participating in the research were informed about the research and data collection forms. The research adhered to the Helsinki Declaration.

Data Collection Forms

The tools used to collect the data were the Personal Information Form, PSS, SERS-SF, and CMOTS.

Personal Information Form

The form consists of 14 items questioning the participants' socio-demographic characteristics, their practices for reducing stress, and their thoughts about music. The form was developed by the researchers, by reviewing the relevant literature and similar studies in which the factors affecting the stress level of patients with schizophrenia and the effects of music therapy were investigated.^[18,21]

PSS

The scale was developed by Cohen et al.^[22] in 1983. The validity and reliability study of the Turkish version of the scale was conducted by Eskin et al.^[23] (2013). The PSS consists of two subscales, namely, perceived self-efficacy and perceived stress/discomfort, and 14 items. Responses given to the items are rated on a 5-point Likert-type scale ranging from "0" (Never) to "4" (Very often). Seven items (items 4, 5, 6, 7, 9, 10, and 13) with positive statements are reverse scored. High scores indicate that the individual's perceived stress level is high.^[23] The minimum and maximum possible scores that can be obtained from the scale are 0 and 40, respectively. Higher scores indicate that the level of perceived stress is high.

SERS-SF

The Turkish version of the SERS-SF was developed by Tukuş (2010) based on the Self-Esteem Scale (RSI), the Index of Self-Esteem Scale) and the SERS-SF used to measure self-esteem. The SERS-SF is composed of 10 positively keyed items and 10 negatively keyed items. The SERS-SF is a valid and reliable scale and it can be used in studies conducted with patients with schizophrenia to measure their self-esteem, which is an important element in treatment. While the positively keyed items make up the first factor, the negatively keyed items are included in the second and third factors. The first factor refers to togetherness with others, resourcefulness, and satisfaction. Items 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 are the positively keyed items. The second factor refers to the comparison with others and failure. The negatively keyed items included in the second factor are the 1st, 2nd, 3rd, 9th, and 10th items. The third factor refers to Self-Dissatisfaction. The negatively keyed items included in the third factor are items 4, 5, 6, 7, and 8.^[24] Scores from the scale are evaluated within the range of (–70) to (+70) covering positive and negative dimensions. The scale does not contain reverse items; however, scores from negative dimensions are calculated with negative values while scores from positive dimensions are calculated with positive values.

Increasing scores in positive dimensions indicate an increase in self-esteem, whereas increasing scores in the negative dimensions of BSDÖ-KF indicate a decrease in self-esteem.

The CMOTS

It was developed by Pelletier et al.^[25] (1997) and consists of 24 items and 3 sub-dimensions. The validity and reliability studies of the Turkish version of the CMOTS were carried out by Özer, Altınok, Yöntem, and Bayoğlu (2017). The CMOTS is used to assess the motivation levels of clients receiving services from mental health professionals regarding the continuity of support for their psychological needs. The subscales of the five-factor structure are as follows: A motivation subscale (the 1st, 7th, 11th, and 12th items), Identified Regulation subscale (the 5th, 6th, 13th, and 18th items), Integrated Regulation subscale (the 15th, 16th, 19th and, 20th items), and Introjected Regulation subscale (the 4th, 8th, 9th, and 17th items). The subscales of the three-factor structure are as follows: A motivation subscale (the 1st, 7th, 11th, and 12th items), Intrinsic Motivation subscale (the 2nd, 3rd, 10th, and 14th items). Extrinsic Motivation sub-dimension (the 5th, 6th, 13th, 18th, 15th, 16th, 19th, 20th, 4th, 8th, 9th, and 17th items). There are no reverse-scored items in the scale.^[26] A high score indicates a high level of motivation.

Data Collection

Before starting the study, the researcher introduced herself. After the patients were informed about the aim and duration, their informed consent forms were obtained and the study was started. The forms were filled in before the music therapy was started. After the eight sessions of music therapy were completed, a post-test was administered. The scales administered in the first and the eighth sessions were filled in for follow-up measurements performed a month after the post-test. The forms were completed in 25–30 min.

Intervention and Procedure

Before commencing the research, the researcher completed 120-h online music therapy training. A literature review was conducted for the music and modes to be used in the research, and communication was established with the Turkish Music Research and Promotion Group (TÜMATA).^[27–29] Based on their commendations of TÜMATA and the literature, it was decided to utilize the “rast mode” from Turkish music, known to evoke joy, tranquility, delight, and relaxation in individuals with mental health issues. Subsequently, instrumental (lyric-free music) styles from TÜMATA and TRT Music’s Rast modes were compiled into a CD with the aid of computer and sound systems. The music therapy sessions took place in the group therapy room of the CMHC. Music therapy undergone by the patients participating in the present study consisted of eight sessions, each of which lasted 60 min. In the first stage, the

patients who met the inclusion criteria determined by the researcher were contacted and an information meeting was held. At the meeting, the researcher and the patients decided on the day and hour of the training. In the first session of the training (November 03, 2020), principles on how the intra-group implementation of the training should be performed were decided. Then they were told to display the following behaviors during the therapy: Respecting each other during and after the music therapy, attending music therapy on time and participating in it actively, not leaving the group therapy hall before the music therapy session is over, keeping quiet during the music therapy, following the instructions given by the researcher during the music therapy, sitting in a comfortable position during the therapy with the eyes either open or closed, and giving feedback.^[30] At the end of each session, a discussion was held on the following questions to evaluate the group activity: How did you feel after the music therapy? Could you tell us the effects of music therapy on you? During the study, two patients were excluded from the sample because one patient was prescribed different medications and one patient did not attend music therapy sessions regularly. Therefore, the sample included 30 patients.

Music therapy was performed in line with the COVID-19 pandemic rules as is shown in Figure 1.

Data Analysis

The data in the study were analyzed using the Statistical Package for the Social Science (SPSS) 23.0. Numbers, percentages, arithmetic mean, and standard deviation values were used as descriptive statistics in the analysis of the data. The Friedman test was used to compare the measurement values obtained before and after the music therapy and during the follow-up. The comparison alpha value was taken as 0.01 and the $p < 0.01$ value was considered statistically significant.

Results

The mean age of the patients participating in our study was 40.23 ± 3.12 years. Of them, 63.33% were men, 53.33% were single, 53.33% were high school graduates, 73.33% perceived their income as middle and all had social security. While all of the patients liked to listen to music, 70% preferred to listen to music ($n=21$) when they were stressed. All of the patients stated that they wanted music to be played at the CMHC (Table 1). In Table 2, the mean scores the participants obtained from the PSS, SERS-SF, and CMOTS before and after music therapy, and during the follow-up are given. As shown in Table 2, there were statistically significant differences between the mean scores of the patients with schizophrenia obtained from the PSS, SERS-SF, and CMOTS before and after music therapy, and during the follow-up ($p < 0.01$).

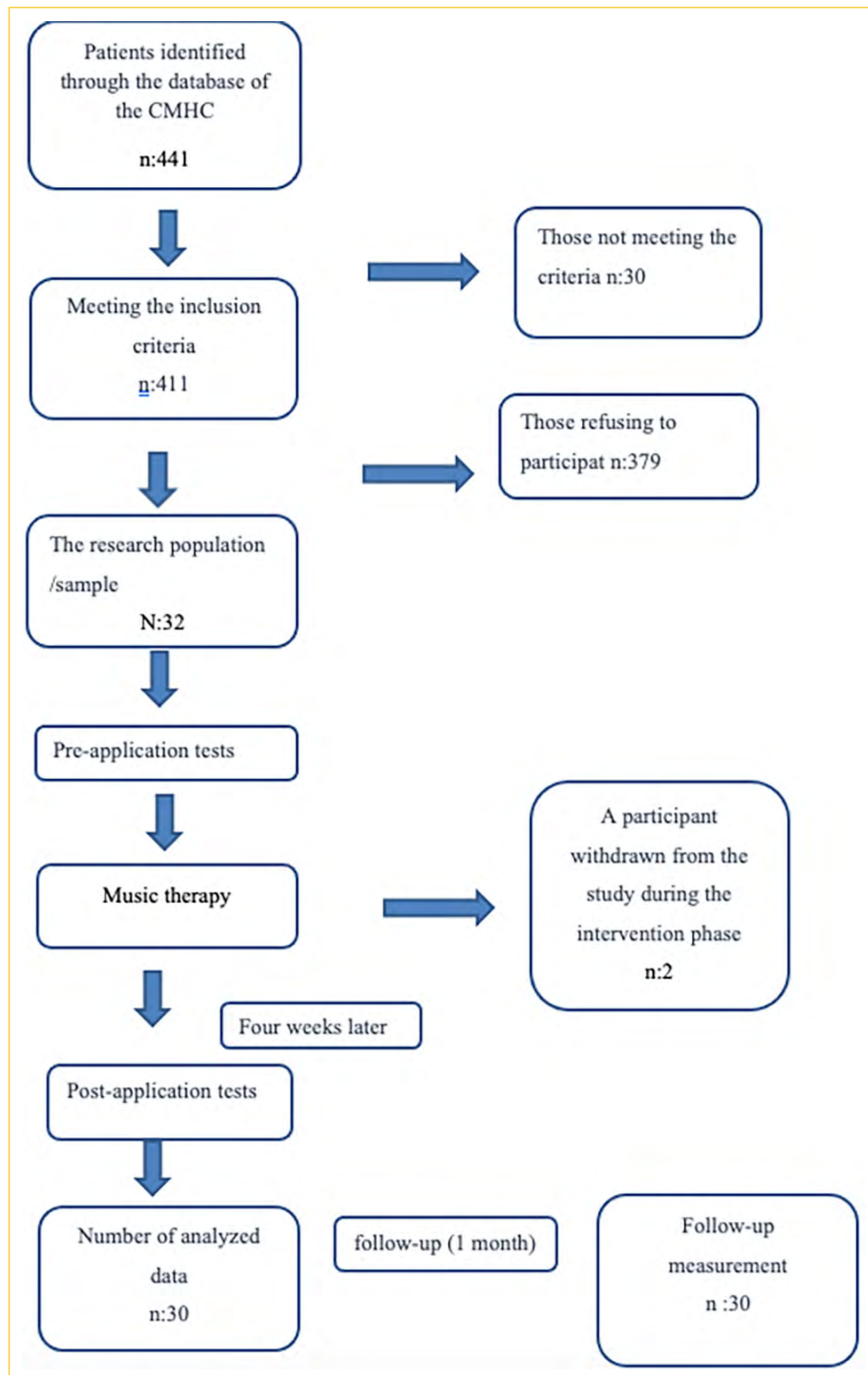


Figure 1. Flow chart.
CMHC: Community mental health center.

Discussion

This non-randomized and non-controlled 8-week study aimed to evaluate the effect of music therapy on self-esteem, motivation, and perceived stress levels of schizophrenia patients

followed at a CMHC. The research findings have determined that music therapy has positive effects on reducing stress levels in schizophrenia patients.

In the literature, these results showed that music therapy had a significant positive effect on the perceived stress level. The

Table 1. Sociodemographic characteristics of the schizophrenia patients

Sociodemographic characteristics	Intervention group (n=30)	
	n	%
Age (mean±SD)	40.23±3.12	
Sex		
Female	19	63.3
Male	11	36.7
Marital status		
Married	13	43.3
Single	17	56.7
Educational status		
Primary school	4	13.3
Secondary school	6	20.0
High school	16	53.3
University	4	13.3
Income status		
Middle	22	73.3
Low	6	20.0
High	2	6.7
Social assurance		
Yes	30	100.0
Smoking		
Yes	18	60.0
No	12	40.0
Alcohol use		
Yes	2	6.7
No	28	93.3

SD: Standard deviation.

increase in the scores obtained at the follow-up measurements suggests that the application should be continued to maintain the effectiveness of music therapy. In the literature, it has been reported that music therapy reduces the stress and anxiety levels of psychiatric patients,^[21,31] in a meta-analysis examining the effects of music therapy on stress, a significant impact in reducing stress was observed.^[32] Another study investigating the impact of music therapy on stress and coping strategies in schizophrenia patients reported its effectiveness in reducing perceived stress.^[33] Our study findings are consistent with those in the literature.

The research results indicate that music therapy has positive effects on increasing motivation among schizophrenia patients. These results suggest that music therapy had a significant positive effect on the motivation level of patients with schizophrenia. The increase in the scores obtained at the follow-up measurements suggests that the application should be continued to maintain the effectiveness of music therapy. During the search for studies investigating the effect of music therapy on the motivation of schizophrenia patients toward treatment, it was found that there is a gap in the literature. However, in a study in which the nature of motivation in schizophrenia was investigated, it was reported that extrinsic and intrinsic factors would contribute to the motivation of patients with schizophrenia.^[5] In a study focused on motivation deficits in schizophrenia and examining the relationship between motivation, neurocognition, and functionality, it was found that motivation significantly influences treatment adherence and functionality in patients with schizophrenia.^[34] Another study investigating the impact of music therapy on motivation in schizophrenia patients found that music therapy positively affected treatment adherence and motivation levels.^[35]

Table 2. The mean scores of the patients with schizophrenia obtained from the PSS, SERS-SF, and CMOTS before and after music therapy, and during the follow-up

Scales and subscales	Pre-test (mean±SD)	Post-test (mean±SD)	Follow-up (mean±SD)	Test value (mean±SD)
Perceived stress scale (PSS)				
Insufficient perception of self-efficacy	18.4±4.10	5.67±4.1	12.3±5.34	$\chi^2=53.23^*$
Stress/perception of discomfort	13.53±4.3	4.93±3.21	10.77±4.8	$\chi^2=58.87^*$
PSS Total score	31.93±8.4	10.6±7.3	23.07±10.1	$\chi^2=55.47^*$
Client motivation for therapy scale (CMOTS)				
Lack of motivation	11.9±3.21	7.33±2.13	7.46±4.30	$\chi^2=50.87^*$
Intrinsic motivation	18.8±6.9	22.03±3.46	21.0±4.33	$\chi^2=50.44^*$
Extrinsic motivation	54.0±5.36	63.63±3.14	65.3±3.35	$\chi^2=58.18^*$
Self-esteem rating scale-short form (SERS)				
Being with others. Resourcefulness, satisfaction factor	42.83±6.22	53.27±5.13	45.27±5.30	$\chi^2=53.07^*$
Comparison with others and the failure factor	14.07±5.46	8.2±2.7	11.07±2.3	$\chi^2=54.99^*$
Dissatisfaction factor	19.13±7.35	12.47±4.3	15.17±3.13	$\chi^2=53.07^*$

* $p < 0.01$. SD: Standard deviation.

The research results suggest that music therapy has positive effects on increasing self-esteem among schizophrenia patients. The increase in the scores obtained at the follow-up measurements suggests that the application should be continued to maintain the effectiveness of music therapy. In the literature, it has been reported that music affects self-recognition and, thus self-esteem.^[36] The experimental study conducted on the impact of music therapy on self-esteem among students reported an increase in the self-esteem levels of participants in the experimental group following music therapy.^[37] In a study investigating the effects of group music therapy on patients with severe mental illnesses, it reported positive effects of group music therapy on self-esteem.^[38] In a study examining the effects of music therapy on self-esteem in schizophrenia patients, potential therapeutic effects of music therapy on self-esteem were identified.^[39]

In the literature, in studies conducted on music therapy, music therapy was added to the routine treatment of patients, and it was reported that more positive results were obtained as a result of music therapy in patients with schizophrenia compared to routine treatment,^[26] that music therapy provided psychological improvement in patients with schizophrenia,^[15] that music therapy had a positive effect on cognition and spirituality^[18] and that the rest mode had a positive effect on symptoms in patients with schizophrenia.^[31] These results in the literature which are consistent with our results suggest that music therapy has a healing effect.

Study Limitations

Because the present study included only the patients with schizophrenia receiving outpatient treatment at the CMHC, its results cannot be generalized to all individuals diagnosed with schizophrenia in Türkiye. Because the number of patients with schizophrenia CMHC was insufficient to form a control group and because external variables affecting the stress level could not be controlled, the study was conducted without a control group, which is the limitation of the study.

Conclusion

Music therapy positively affects patients by reducing their stress levels and increasing their motivation and self-esteem levels. The number of studies conducted on music therapy in patients with schizophrenia is limited. Music therapy undergone by the patients participating in the present study consisted of eight sessions, each of which lasted 60 minutes. Music therapy is also an intervention that can be easily performed by healthcare professionals in psychiatry clinics and CMHCs. Therefore, if music therapy is routinely implemented, in the long-term, it is thought to have positive effects on patients by decreasing their stress levels and increasing their motivation and self-esteem levels.

Implications for Nursing

The present study whose sample consisted of patients with schizophrenia who met the inclusion criteria was conducted in a CMHC. It is recommended that music therapy should be regularly administered in CMHCs and psychiatry clinics within the scope of routine therapies, that it should be integrated into treatment, that studies in which the effectiveness of music therapy on patients with schizophrenia is compared with other psychiatric patients should be planned, that studies including larger sample groups of patients with schizophrenia should be performed to investigate the effectiveness of music therapy, and that patients should be encouraged to undergo music therapy in their daily lives to maintain their well-being provided by music therapy.

Acknowledgment: The author would like to thank all study participants.

Ethics Committee Approval: The study was approved by the Çankırı Karatekin University Non-Invasive Research Ethics Committee (No: 228, Date: 16/06/2020).

Authorship Contributions: Concept – B.Ç., S.D.; Design – B.Ç., S.D.; Supervision – B.Ç., S.D.; Fundings - B.Ç., S.D.; Materials – B.Ç., S.D.; Data collection &/or processing – B.Ç., S.D.; Analysis and/or interpretation – B.Ç., S.D.; Literature search – B.Ç., S.D.; Writing – B.Ç., S.D.; Critical review – B.Ç., S.D.

Conflict of Interest: There are no relevant conflicts of interest to disclose.

Use of AI for Writing Assistance: No AI technologies utilized.

Financial Disclosure: The authors declared that this study has received no financial support.

Peer-review: Externally peer-reviewed.

References

1. Boland R, Verduin M, Ruiz P. Kaplan & Sadock's synopsis of psychiatry. 12th ed. Philadelphia: Lippincott Williams & Wilkins; 2021.
2. World Health Organization. WHO global disability action plan 2014-2021: Better health for all people with disability. 2015. Available at: <https://www.who.int/publications/i/item/who-global-disability-action-plan-2014-2021>. Accessed Sep 3, 2024.
3. Erol N, Kılıç C, Ulusoy M, Keçeci M, Şimşek Z. Türkiye ruh sağlığı profili raporu. Ankara: T. C. Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü; 1998. [In Turkish]
4. Simpson EH, Balsam PD. The behavioral neuroscience of motivation: An overview of concepts, measures, and translational applications. *Curr Top Behav Neurosci* 2016;27:1–12.
5. Yıldız E. Şizofrenide motivasyonun genel doğası. I. Uluslararası Battalgazi Multidisipliner Çalışmalar Kongresi, 7-9 Aralık 2018. Malatya, Türkiye. 2018. [In Turkish]

6. Fervaha G, Duncan M, Foussias G, Agid O, Faulkner GE, Remington G. Effort-based decision making as an objective paradigm for the assessment of motivational deficits in schizophrenia. *Schizophr Res* 2015;168:483–90.
7. Fervaha G, Takeuchi H, Foussias G, Hahn MK, Agid O, Remington G. Achievement motivation in early schizophrenia: Relationship with symptoms, cognition and functional outcome. *Early Interv Psychiatry* 2018;12:1038–44.
8. Taşkın EO. İçselleştirilmiş damga ve damgalanma algısı. Stigma ruhsal hastalıklara yönelik tutumlar ve damgalama. 1. baskı. İzmir: Meta Basım Matbaacılık; 2007. [In Turkish]
9. Kök HE, Demir S. Internalized stigma, self-esteem, and perceived social support in patients with schizophrenia and bipolar disorder. *Çukurova Med J* 2018;43:99–106.
10. Kaya Erten Z, Seviğ Ü. The efficacy of self-esteem promotion program on the adolescents migrated from East and Southeastern Anatolia regions. *J Hacettepe Univ Fac Nurs* 2018;5:85–101.
11. Carr C, Odell-Miller H, Priebe S. A systematic review of music therapy practice and outcomes with acute adult psychiatric in-patients. *PLoS One* 2013;8:e70252.
12. Çoban A. Müzik terapi. İstanbul: Timaş Yayınları; 2020. [In Turkish]
13. Tarhan N. Mutluluk psikolojisi ve stresle başa çıkma. İstanbul: Timaş Yayınları. 2019. [In Turkish]
14. Ak AS. Müzikle Tedavi. Ankara: Özener Publications; 2020. [In Turkish]
15. Kavak F, Ünal S, Yılmaz E. Effects of relaxation exercises and music therapy on the psychological symptoms and depression levels of patients with Schizophrenia. *Arch Psychiatr Nurs* 2016;30:508–12.
16. American Music Therapy Association. Available at: <https://www.musictherapy.org/>. Accessed Oct 10, 2020.
17. Grocke D, Wigram T. Receptive methods in music therapy. Techniques and clinical applications for music therapy clinicians, educators and students. UK & USA: Jessica Kingsley Publishers; 2007.
18. Fındıkoğlu S, Doğan S, Özbek H, Gidiş V. Effects of music therapy on mood in patients with schizophrenia. *Jia J [Article in Turkish]* 2020;3:61–70.
19. Altan N, Oğuz S. Huzurevinde kalan yaşlılarda pasif müzikoterapinin uyku kalitesine etkisi. Yüksek Lisans Tezi. İstanbul: Marmara Üniversitesi, Sağlık Bilimleri Enstitüsü; 2011. [In Turkish]
20. Özgenel PE, Asqarova S. Şizofreni hastalarında müzik terapinin depresyon, işlevsellik, genel psikopatoloji klinik parametreleri üzerine etkileri. Yüksek Lisans Tezi. İstanbul: Üsküdar Üniversitesi, Sosyal Bilimler Enstitüsü; 2018. [In Turkish]
21. De Sousa A, Jagtap J. Music therapy in chronic schizophrenia. *J Pak Psychiatr Soc* 2010;7:13–7.
22. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav* 1983;24:385–96.
23. Eskin M, Harlak H, Demirkıran F, Dereboy Ç. Adaptation of the perceived stress scale to Turkish: Reliability and validity analysis. *New Symp J [Article in Turkish]* 2013;51:132–40.
24. Tukuş L, Yıldız M. (Benlik saygısı değerlendirme ölçeği-kısa formu) Türkçe güvenilirlik ve geçerlilik çalışması. Uzmanlık Tezi. Kocaeli: Kocaeli Üniversitesi Tıp Fakültesi; 2010. [In Turkish]
25. Pelletier LG, Tuson KM, Haddad NK. Client motivation for therapy scale: A measure of intrinsic motivation, extrinsic motivation, and amotivation for therapy. *J Pers Assess* 1997;68:414–35.
26. Özer Ö, Altınok A, Yöntem MK, Bayoğlu F. Client motivation for therapy scale adaptation to Turkish: Reliability and validity study. *Curr App Psychiatr [Article in Turkish]* 2017;9:13–30.
27. Giray HS, Kırımtayf S. Çağlar boyu müzikle tedavi ve uygulandığı hastalıklar. Yüksek Lisans Tezi. Kocaeli: Kocaeli Üniversitesi, Sosyal Bilimler Enstitüsü; 2008. [In Turkish]
28. Somakçı P. Türklerde müzikle tedavi. *Sos Bil Enst Derg [Article in Turkish]* 2003;15:131–40.
29. Ertekin Pinar S, Tel H. The effect of music on auditory hallucination and quality of life in schizophrenic patients: A randomised controlled trial. *Issues Ment Health Nurs* 2019;40:50–7.
30. Yalom ID. Kısa süreli grup terapileri-ilkeler ve teknikler. Çevirmen: Şahin Hisli, N. Ankara: Türk Psikologlar Derneği Yayınları; 2019. [In Turkish]
31. Talwar N, Crawford MJ, Maratos A, Nur U, McDermott O, Procter S. Music therapy for in-patients with schizophrenia: Exploratory randomised controlled trial. *Br J Psychiatry* 2006;189:405–9.
32. de Witte M, Pinho ADS, Stams GJ, Moonen X, Bos AER, van Hooren S. Music therapy for stress reduction: A systematic review and meta-analysis. *Health Psychol Rev* 2022;16:134–59.
33. Alam F, Sallam L, Hashem S, Sabra A. Effect of receptive music therapy on stress and coping strategies among patients with schizophrenia. *Tanta Sci Nurs J* 2022;25:72–93.
34. Gard DE, Fisher M, Garrett C, Genevsky A, Vinogradov S. Motivation and its relationship to neurocognition, social cognition, and functional outcome in schizophrenia. *Schizophr Res* 2009;115:74–81.
35. Hegde S, Keshavan MS. The brain on the beat: How music may heal schizophrenia. *Schizophr Res* 2023;261:113–5.
36. Çuhadar CH. Musical intelligence. *J Soc Sci Inst [Article in Turkish]* 2017;26:1–12.
37. Yücesan E, Şendurur Y. Effects of music therapy, poetry therapy, and creative drama applications on self-esteem levels of college students. *J Poet Ther* 2018;31:26–39.
38. Grocke D, Bloch S, Castle D, Thompson G, Newton R, Stewart S, et al. Group music therapy for severe mental illness: A randomized embedded-experimental mixed methods study. *Acta Psychiatr Scand* 2014;130:144–53.
39. Mahmoudi E, Dalvandi A, Rahgoi A, Rahgozar M, Zadehmo-hammadi A. P03-85 -Effect of music therapy on self-esteem of inpatient chronic schizophrenic patients. *Eur Psychiatry* 2010;25(Suppl 1):1207.