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RESEARCH ARTICLE

Classical Turkish Music as Group Music Therapy for Inpatients with Schizophrenia: Feasibility and Efficacy

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Abstract

Background: The aim of this study was to examine the feasibility and therapeutic efficacy of classical-Turkish music as group music therapy for inpatients diagnosed with schizophrenia.

Methods: Patients in the same clinic were randomly assigned to a study (n=45) or control (n=40) group. In addition to standard care, the study group underwent group music therapy for twelve sessions over four weeks. Each therapy group consisted of 15 patients. Different classical Turkish melodic contours and patterns were used for each therapy session, which was designed to conventionally suit the atmosphere of that time period in a given day. Our primary outcome measures were changes in the Positive and Negative Symptom Scale (PANSS), Brief Psychiatric Rating Scale, and Global Assessment of Functioning.

Results: Group music therapy for schizophrenia inpatients was feasible. Total PANSS scores did not differ between groups in the initial, first, or second week. At the end of the third week, total PANNS scores for the music therapy group were significantly lower than those for the controls. By the end of the fourth week, total PANNS scores for the music therapy group were significantly lower than those for the controls. Group comparisons also showed that music therapy affords significant advantages when trying to improve interpersonal relationships and general psychosocial functioning.

Conclusions: This study represents the first group musical therapy trial using classical-Turkish music tones in patients with acute exacerbation of schizophrenia, and these patients showed reductions in symptom severity and improvements in their abilities to adapt to the social environment. Our results suggest that further studies are needed to further explore the long-term effects of group music therapy.

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Introduction

Initially considered an alternative medical method, music therapy was ultimately accepted as a classical method by the end of the twentieth century (Altınölçek, 2006; Hayashi et al., 2002; Talwar et al., 2006). Indeed, music has been observed to have a positive effect on different aspects of human life, such as physiologic functions, quality of life, and psychosocial functions, and music therapy treatments are recognized for a number of disorders. Such generalization suggests that perhaps both schizophrenia and chronic psychosis patients could possibly benefit from the positive effects of music therapy (Altınölçek, 2006; Talwar et al., 2006; Ulrich et al., 2007). Music therapy might reduce the chronic symptoms of schizophrenia, and although its standardization or wide-spread implementation is not yet ensured, music therapy could be a less-frightening form of treatment compared to surgery

or electric shock (Altınölçek, 2006; Ulrich et al., 2007; Tang et al., 1994). Generally, music therapy might be defined as the “systematic move process where the therapist benefits from the musical experience and therapeutic relationship that rises up on the dynamic power of change to assist on healing his applicant” (Drieschner and Pioch, 2001; Bruscia, 1998). Music therapy is generally considered a psychotherapeutic method because it addresses psychic processes by using musical interference via communication and expression.

During Islamic history, adherents to Sufism were particularly interested in music and touted its ability to help avoid spiritual sicknesses and promote maturation. Sources state that the music therapy tradition, which had started about 800 years ago, was being performed in hospitals established by Seljuk and Ottoman Turks. The patients were treated with occupation and musical and water sounds, in addition to the use of medicines. Zekeriya Er-Razi (854 - 932), Farabi (870 - 950) and Ibn Sina (Avicenna 980 - 1037), all known as doctors and musicians, were important people in Islamic History who investigated the healing effects of music. Farabi further investigated the effects of Turkish music on the human soul and on people during their most effective daily time periods (Çoban, 2010).

In Europe during the 18th and 19th centuries, ideas for using music as treatment progressed. In the 20th century, further steps to bring music therapy into the mainstream were taken. The French doctor Quarin reported the effects of music on epilepsy patients, and Marquet considered music a treatment for melancholia. Likewise, Laurent used music to treat hypochondria, and Doctor Bourdelot described using music therapy with his patients. Esquirol declared that music is one of the most efficient treatments for depression. During this period, the use of music with hospital patients grew and choirs were organized that consisted of patients (Çoban, 2010). The first step for music treatment in America was taken by Dr. Willer Van der Wall, who for the first time in 1920, examined the calming and stimulating effects of music on the human soul in individuals from the jails and hospitals of Pennsylvania and New York (Çoban, 2010). When music was used in World War II hospitals where wounded soldiers were staying, this calming effect of music was noticed. By the end of the 1950s, music therapy was recognized more than ever in clinics throughout Europe and the U.S (Çoban, 2010).

Music therapy approaches can be divided according to three primary characteristics: 1) active-passive, 2) structural level and 3) therapeutic focus (Drieschner and Pioch, 2001; Wigram and De Backer, 1999). The first and most basic distinction is between active and passive music therapy. The active form captures many different types of musical interference, such as free spontaneity and song repetition. Passive techniques include forms where the therapist performs music and the patient listens, or where the patient listens to previously determined and recorded music. Although some approaches to music therapy emphasize a particular musical interference, a mixed version using both active and passive methods is used in many models. Within the second primary characteristic, structural level, differences also exist. Rhythms, procedures and therapy sessions might each have different levels of structure. For instance, spontaneous themes or songs might differ in terms of rhythmic and harmonic structure. The level of structuring is dependent on the needs of the patient and additionally differs among music therapy models (Drieschner and Pioch, 2001). Finally, the third categorization for music therapy concerns the focus of therapeutic attention. That is, during the musical processes, the focus could be on the verbal reflections of the patient's problems. It has been reported that almost half of the differences that appear among these three categories can be explained by the diversity within patient samples (Drieschner and Pioch, 2001; Pavlicevic, 1994). According to clinical reports, a mixed version of active and passive techniques is predominantly used during music therapy for psychiatric patients. However, verbalization of musical spontaneity and interference comprises the main focus. The music therapists who work with these patients in clinical practice are highly educated and show strong psychotherapeutic tendencies in their work. Music therapy specific to psychiatric patients is provided either individually or in small groups and is usually conducted over a long time period (Wigram and De Backer, 1999; Leung et al., 1998).

The aim of music therapy is to assist in developing the interpersonal relationships of patients who have serious mental illness and in resolving their internalized problems. Disruptions in interpersonal relationships and deficits related to schizophrenia, such as disorganized behavior, can be alleviated by increasing the communication with the harmonizing effects of music.

Although public-based mental services designed to decrease the need for inpatient treatment are being developed, many patients with serious mental illnesses are periodically in need of acute treatment. As time goes by, concerns remain as to the quality of inpatient treatment, especially with respect to the lack of communication between patients and healthcare personnel (Talwar et al., 2006; Tang et al., 1994; Pavlicevic, 1994). Unfortunately, there is insufficient scientific evidence emphasizing the effectiveness of music therapy, which is a psychiatric treatment that has the potential to cover this deficiency in inpatient care for patients who have serious mental illness (Hayashi et al., 2002; Talwar et al., 2006). Therefore, we aimed to test the applicability of classical Turkish music as music therapy for schizophrenic inpatients and to evaluate its effects on mental health, general psychosocial functioning and patient care satisfaction.

Methods

Study design and sample:

Eighty-five out of 107 female patients, who were consecutively admitted to the Women's Mental Health Service of the Erenkoy Research and Training Hospital for Psychiatric and Neurological Diseases between June 2012 and September 2012 were included in this study. Patients had been diagnosed with schizophrenia according to the DSM-IV (APA, 1994) diagnostic criteria.

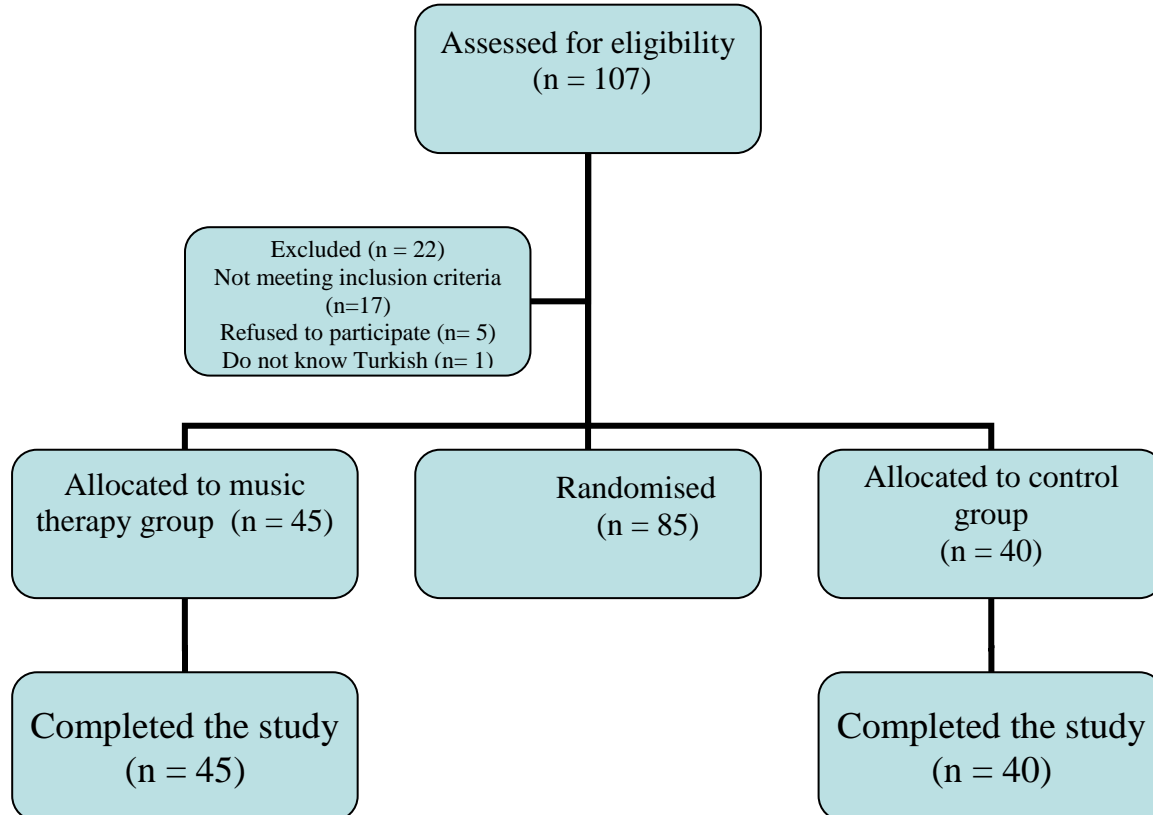
None of the patients had special musical ability or training. Participants ranged in age from 18 to 60 years and had at least completed primary school. Patients with secondary diagnoses such as head trauma, epilepsy, organic psychosis or dementia, as well as any patients with an Axis-II diagnosis and those with auditory or visual disabilities, were excluded from the study to enhance the homogeneity of the sample. Furthermore, patients who could not complete the basic interview without assistance due to an inability to speak Turkish were also excluded. The study was approved by the Local Ethics Committee. All patients and their caregivers gave written informed consent or assent following a thorough explanation of the procedures and risks.

Procedure:

Participants completed the study (n=85) were randomly assigned to one of two groups: the music therapy group (MG; n=45) or the control group (CG; n=40). The study was conducted as a clinical observation (**Figure 1**).

Both groups were treated with antipsychotics. In addition to standard medical treatment, participants in the MG group also received group music therapy. Music therapy was initiated after the acute excitation phase had been stabilized through medication (after approximately two weeks). Clinical scales were administered to all subjects by independent blind evaluators before the initiation of treatment and once per week during the 4-week course of the trial. The services of acute psychosis treatment in routine clinic practice, standard nursing, routine activity as a part of the inpatient program and social activity were provided to both groups.

Figure 1. Consort diagram.



Music therapy sessions:

The group therapy process consisted of a total of 12 hours, three hours per week. Each session lasted approximately 50 - 55 minutes. The aim of the therapy was to help ensure the desired behavior changes by facilitating fun, joy, and person-to-person communication through systematic musical activities such as listening to music, tapping out rhythms, and choral study. Music therapy sessions were conducted with three groups consisting of 15 attendees each, in order. The group music therapy sessions were led by a psychiatrist, two music therapists and six musicians. These music therapists had 5 years of clinical experience on average. Two therapists attended each session as the liable therapists, to maintain the continuity of the therapeutic process. During therapy, attendees sat on couches that formed a circle. At the connection point of the circle, the music therapists along with the instruments were stationed so that they could see each patient.

In every session, a nay and tambourine were the main instruments. The therapists performed different melodic contours and patterns of Turkish classical music in almost every session by using additional instruments such as a tambour, dulcimer, zither, a small drum, and a classic kemancha. To increase the effectiveness of the music therapy, the types (makam) of Turkish music performed were selected specifically for the hour of the day at which the therapy session was conducted. Each makam of Turkish classical music conventionally suits the atmosphere of different daily time periods. A smooth and naive therapy which facilitated trust and easy communication was realized in the first sessions. The therapists and musicians performed music, and the patients listened. As the patients' harmony within the group and their motivation and interest toward the music increased, rhythm studies were undertaken with musical instruments under the guidance of the therapists to regulate behavior and personal awareness during subsequent sessions. Patients became increasingly active during the therapy sessions and choral studies of Turkish songs, and ballads were conducted following the liable therapist's lead. Moreover, in each session patients attended the stepping and dance studies with simple patterns.

Measurements:

The primary outcome measures used in this study were the total scores from the Brief Psychiatric Symptom Scale (BPRS) (Overall and Gorham, 1988), which is commonly used to measure changes in the symptom intensity of schizophrenic and other psychotic patients. The BPRS contains 30 items. Additionally, total scores from the Positive and Negative Syndrome Scale (PANSS) were utilized (Kay et al., 1987).

Secondary measurements were additionally selected because they are frequently used in studies of psychosocial methods for schizophrenic patients. These measurements included the change in the sub-scales of PANSS, for the evaluation of illness severity clinic global impression scale (CGI), for evaluation of global functionality (GAF) (Jones et al., 1995), Health Related Quality of Life Scale (HRQOL) for evaluation of the patient's subjective life quality (Atkinson and Greenfield, 1994), and the Satisfaction Survey Related to Health (HRQS) for evaluation of the personal satisfaction with the nursing care. All measurement means were applied on a weekly basis before randomization and until the study ended.

Statistical analyses:

All analyses were carried out using SPSS® for Windows 19.0 software (Microsoft corp, USA). Descriptive statistics including frequency, percentile, mean, and standard deviation were used to describe variables used in this study. Continuous data were expressed as mean \pm standard deviation while categorical data were presented as percentage. The range of the variables was tested through the Kolmogorov-Smirnov test. Analysis of variance and the Friedman test were used for iterative measurements. In order to determine differences between groups, Pearson chi-square test for discrete variables and Paired samples t-tests for continuous variables were used. P values under 0.05 were considered as statistically significant.

Results

During the study period, 107 patients were analyzed, 85 of whom were eligible to participate in the study and subsequently were randomized into one of two groups. There were no significant statistical differences between the control and music therapy groups in socio-demographic variables such as age, education, marital status, job history, onset of illness, or number and term of inpatient stays. The average neuroleptic daily dose equivalent of chlorpromazine was 690 mg in the therapy group and 736 mg in the control group by the end of the study. Throughout the study term, no statistically significant difference was found between the study groups regarding the medication doses.

After 12 group music therapy sessions, the BPRS and PANSS scores for the patients in the music therapy group significantly decreased, and the participants developed in their levels of musical interaction guided by the therapists. Table 1 contains the mean total PANSS scores along with standard deviations in accordance with the

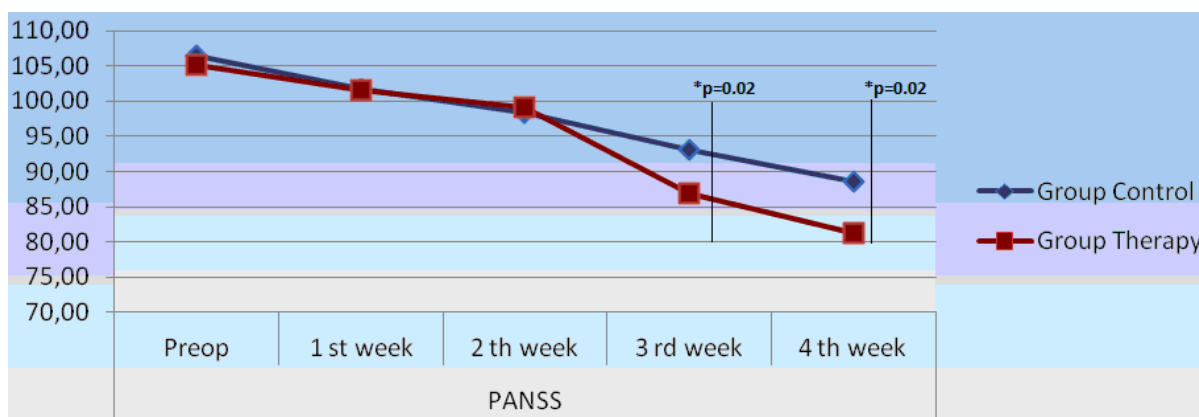
study weeks for the music therapy and control groups. There were no between-group differences in the total PANSS scores ($p > 0.05$) initially or during the first or second week of therapy. By the end of the third week, the average total PANSS score for the music therapy group (86.90 ± 32.10) was significantly lower ($p = 0.02$) than that of the controls (93.00 ± 30.52). Likewise, at the end of the fourth week, the average total PANSS score for the music therapy group (81.20 ± 30.21) was significantly lower ($p = 0.02$) than that of the controls (88.63 ± 30.17) (See **Table 1** and **Figure 2**).

Table 1. Scores on the PANSS over the study weeks. It denotes the significant decrease in music therapy group (n=45) compared to control group (n= 40), ($p < .05$).

PANNS	Group control		Group therapy		p
		mean±sd	mean±sd		
preop		106.43 ± 32.46	105.13 ± 31.22		0.82
1 st week		101.67 ± 32.47	101,60 ± 32,39		0.99
2 th week		98.27 ± 32.29	99.20 ± 32.14		0.91
3 rd week		93.00 ± 30.52	86.90 ± 32.10		0.02*
4 th week		88.63 ± 30.17	81.20 ± 30.21		0.02*

Paired Samples t-test, * $p < 0.05$

Figure 2. Changes on PANSS scores over the study. By the third and fourth weeks the difference between two groups reaches to the significance ($p < 0.05$).



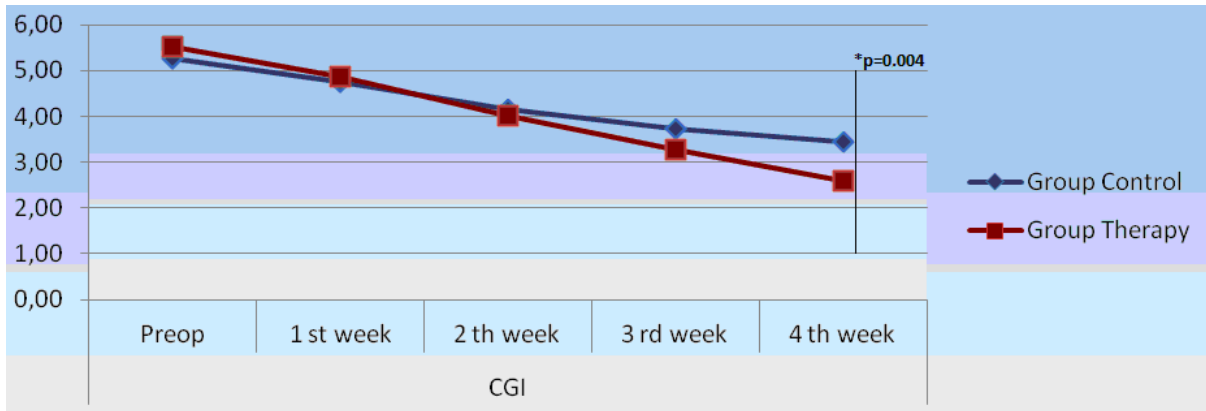
CGI illness severity scores did not differ significantly between the music therapy group and controls at the beginning of the study or in the study's first, second, or third weeks ($p > 0.05$). However, at the end of fourth week, the CGI scores for the control group were significantly higher than those for the music therapy group ($p < 0.05$) (See **Table 2**). The statistically significant change in the CGI scores of the control and musical therapy groups is shown in **Figure 3**.

Table 2. Scores on the CGI over the study denotes the significant decrease in music therapy group ($p < 0.05$).

CGI	Group control		Group therapy		p
		mean±sd	mean±sd		
preop		5.27 ± 1.01	5.53 ± 0.92		0.42
1 st week		4.77 ± 0.97	4.87 ± 0.74		0.81
2 th week		4.17 ± 1.02	4.00 ± 0.65		0.61
3 rd week		3.73 ± 0.98	3.27 ± 0.59		0.12
4 th week		3.43 ± 0.94	2.60 ± 0.74		0.00*

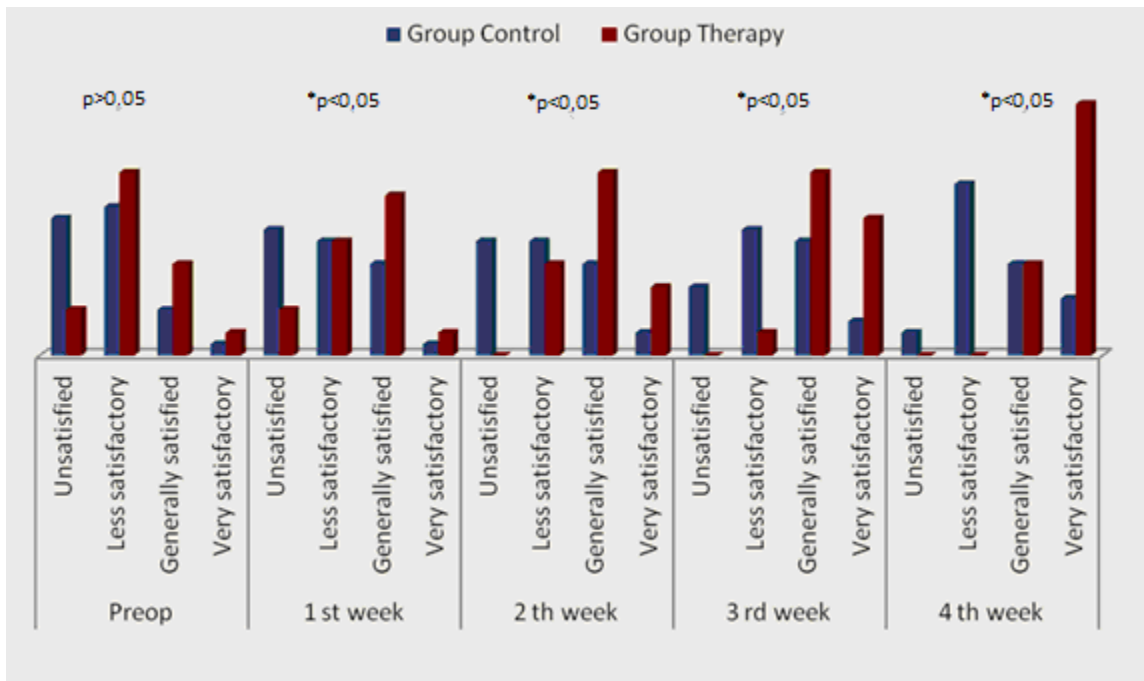
Paired Samples t-test, * $p < 0.05$

Figure 3. Changes on CGI scores throughout the study. It is shown that CGI scores of the music therapy group significantly lower than that of the control group ($p < 0.05$).



Weekly satisfaction levels of the participants are also shown in Figure 4. The HRSQ satisfaction levels were statistically equivalent between the music group and controls at the beginning and the first week ($p > 0.05$). However, in the second, third and fourth weeks, participants in the musical therapy study group showed significantly higher HRSQ levels of satisfaction than the control group ($p < 0.05$) (Figure 4).

Figure 4. Ratings of HRSQ levels throughout the study. Denotes the significant increase of satisfaction level in music therapy group compared to control group ($p < 0.05$).



Discussion

Even though research has examined many different therapy modalities for effectively reducing the symptoms of schizophrenia, none have proved curative or effective in the long term. Drug therapy remains the first line of treatment for patients suffering from schizophrenia, but there are other more effective and creative forms of treatment that can decrease the intensity and frequency of symptoms. Among them, music therapy is garnering increasing attention as a potentially effective form of treatment for schizophrenia symptoms (Talwar et al., 2006; Çoban, 2010; Turry, 1998; Ruud, 1980). Our study has demonstrated the effectiveness of musical therapy on a group of acute symptomatically active schizophrenia patients requiring inpatient treatment and care.

The results from this study showed that the group of patients that received twelve sessions of group music therapy showed significant improvement in negative and general symptoms in the short term. Moreover, assessments by the fourth week of treatment indicated that patients in the music therapy group had higher ratings of satisfaction with their given care as well as greater reductions in clinical severity. All of the participants in the therapy group completed the treatment sessions and reported that their hope for recovery had increased. Indeed, music therapy helps to increase the subjective awareness of the group and improve interpersonal relationships as a measure of the quality of life (Ulrich et al., 2007; Turry, 1998; Pavlicevic and Trevarthen, 1989; van Os et al., 1999, Kemp et al., 1996).

Our findings are mostly consistent with those from previous studies attempting to verify the effectiveness of music therapy. Music therapy has been found to be related not only to a decrease in symptom clusters such as the depression and anxiety observed in schizophrenia patients but also to reductions in the negative symptoms of the illness, as reported in a study in London (Talwar et al., 2006). A randomized controlled study by Tang et al. (identified that nineteen sessions of choral work during a month with residual schizophrenia patients helped to decrease negative symptoms and improve interpersonal relationship skills, thus establishing music therapy's rehabilitative effects (Tang et al., 1994). This six-month study examining participation in 12 karaoke group sessions showed that active participation in a karaoke group can have a stimulating effect on the social interaction of the participants (Leung et al., 1998). Taken together, these two recent studies along with our study show that music group therapy has a positive effect on interpersonal relationships. The capacity of music therapy to influence patients is related to the flexibility, communication and protective functions of the music itself (Hayashi et al., 2002; Atkinson and Greenfield, 1994; Turry, 1998). In particular, these types of effects are often observed in group music therapy, which is not surprising.

Some limitations of this study should be noted. First, our study took place over a single month, which corresponds to the average inpatient stay. Our hospital admits patients from its own region and from other parts of the country and also serves as a mental health training facility. Thus, long-term outpatient follow up could not be maintained effectively. Therefore, we were unable to assess the positive effects of music therapy over a longer period for the patients.

Although music therapy is administered to the patient group, not held any other activity with the control group other than good morning meetings that can be considered as another limitation of this study. However, we examined whether the contribution of music therapy to normal treatment in this study. In addition, different doses of antipsychotic treatment and partial differences may affect the results of the current study. This may be another limitation.

Despite these limitations, our findings are very informative. The quality of psychiatrists' scorings during the study period was generated from a specific idea and facilitated the reliability of the ratings. In addition, while some of the benefits obtained from the music therapy group may not have been specific to music therapy but simply a result of the high attendance rate, music therapy helps to manufacture a cohesive group experience (Turry, 1998; Pavlicevic and Trevarthen, 1989; van Os et al., 1999, Kemp et al., 1996; Altman and Bland, 2005; Ansdell, 1995).

Conclusions

Musical therapy helps improve the psychosocial functioning and mental health status of schizophrenia patients when used in addition to standard treatment. Thus, long-term therapeutic collaboration is recommended for such patients.

Further studies with psychotic patients should be designed to demonstrate the potential effects of musical therapy in many other domains such as improvements in cognitive functioning. Furthermore, studies evaluating the effects of music therapy for schizophrenia outpatients are also needed. Because it has no side effects and is inexpensive, musical therapy warrants further evaluation and broad applications.

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