Effectiveness of Music Therapy on Self-Esteem In Patients With Multiple Sclerosis

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ABSTRACT

Given the lack of completeness of drug efficacy and focusing attention on non-drug approaches music as a non-pharmacological method of treatment have been considered. The aim of the present study was to determine the effect of music on the self-esteem of patients with multiple sclerosis. Research methods are experimental and its design was pre-test and post-test control group. The study included all patients with MS who were admitted in the second half of 2012, to Tehran MS Society, (650 persons) that among them 30 patients who had low self-esteem scores were randomly selected. The sample was then randomly assigned to two experimental and control groups of 15. Cooper Smith’s self-esteem questionnaire was used to collect the data. Experimental group was exposed to 6 sessions of live music (30 minutes each session) and 9 Turn music sessions (each session 30 min) was used. After the intervention, both groups responded to the questionnaire. Follow-up tests were done, after a month on each of the two groups. Data obtained from the analysis of variance with repeated measures were analyzed using SPSS software. The results showed that the average self-esteem scores in MS patients in the experimental group at post-test and follow-up test was significantly different than the control group. In other words, the average scores of self-esteem were increased in post-test step. As a result, music can be used as a treatment method with a very low cost than other existing therapies, in patients with MS may be used to increase self-esteem.

INTRODUCTION

Multiple sclerosis is one of the most common chronic diseases of the central nervous system associated with demyelination of nerve neurons and several demyelinated pieces resulted from the disease fills throughout the white matter and will affect the sensory and motor function. The disease affects approximately 1 out of every 1,000 people, and its prevalence is about 1/1 million people worldwide [30]. The most common disease age is 20 to 40 years [28], the year in which the person is responsible for most domestic and social responsibilities and in fact, it is in the fertile age [24]. As a result, the disease can damage the productive forces of society and affect the entire people of this lesion who live in the community [5]. Prognosis is uncertain and persons with this disease experience varying physical and mental disorders [28]. The Daily dysfunction, social and family life, functional independence, and planning for the future will be strongly influenced and overall well-being of the person is severely degraded. About 80% of these patients have some degree of disability, and only one out of every five patients remained stable condition and the disability is not progressed. Thus, the disease can cause mood disorders and psychological symptoms and chronic nature of the disease and the lack of definitive prognosis of patients. MS patients have higher levels of psychological disorders such as depression, stress and anxiety than healthy individuals [28]. These symptoms may result from direct effects of inflammation and demyelination of nerves or psychological effects of chronic disease and unpredictable MS [30,14,10]. About 48 percent of patients in the first year after diagnosis feel the symptoms of stress, anxiety and depression [33,11,12], and about 25 to 40 percent suffer from anxiety also [10] which greatly affects the quality of life of these patients. However, 50% of psychiatric symptoms in patients with neurological examinations and routine are not recognized. Considering the above and the high prevalence of depression, stress and anxiety deployment of diagnostic tests and treatment of mental, social and non-conventional drug treatments to reduce the signs are
necessary. The most common drug therapy is not effective in all patients with multiple sclerosis and other drugs have many side effects, e.g. Mental fatigue and imbalance, there is no known treatment that is highly effective resolution for these problems [20]. Immunomodulatory drugs and steroid therapy are effective in reducing some of the symptoms of multiple sclerosis and is widely used in patients. But these drugs cannot stop the rapid progression of the disease or to the contrary, also this drug has many side effects such as increased spasticity, nausea, depression, nerve pain, fever, headache, etc. [21]. Therefore, non-drug methods in recent years, has attracted the attention of all patients, including patients with multiple sclerosis that are known as complementary therapies. Complementary therapies are treatments with the comprehensive nature are using to increase their physical and psychological well-being of patients. In several studies it has been found nearly one-third of patients with multiple sclerosis benefit complementary therapies despite the conventional treatment. The popularity of complementary therapies in health system has increased [19]. One of the most common therapies that are complementary therapies is music therapy. The purpose of music is to enable patients to expand their ties, and the content of the comments that cannot express in the form of words may occur through music [16]. Music is involved on cognitive health, physical and emotional people and the order in which the different notes, and also by the word, will strengthen the mental health [8]. Also protect people against sadness, guilt and isolation, and it can be used to combat feelings of depression and reducing loneliness of patients [8,15,25]. On the other hand attending music therapy sessions can provide opportunities for social relationships [35,15], and make positive changes in their physical and mental states, and with it a sense of control over life raise, reduce anxiety and stress and enrich people’s confidence [35,8].

Research conducted using music as a therapeutic tool highlights and believe that music acts as a natural antidepressant, and with careful selection of music can have an impact on mood and reduce depression. In this regard, the use of gentle rhythms and soothing music can help to reduce depression causes, such as anger, frustration; sadness and anxiety some results are as follow.

Chou and Lin [9] investigated during 12 sessions performing music for older people with dementia, their effectiveness in improving depression and cognitive status of their music. The results showed that depressed elderly patients with dementia have shown a significant reduction in the twelfth session. Also, they have an improved cognitive function after six sessions. So that in the twelfth session and even improved after one month follow-up study their cognitive function was significantly increased.

Hernandez, Castro, Moline, Jaime, Guardado [20] also showed that music can provide comfort to patients during chemotherapy treatment to control their anxiety and intense. In another study, Sook shin and Hee Kim [37] investigated the effect of music on anxiety, stress and maternal attachment during Transvaginal Ultrasound Evaluation of fetuses in pregnant women. Their results indicated a significant decrease in anxiety of pregnant women after the music therapy sessions.

Also, Fai Chan, Yang Wong and Thayala [13] to determine the effectiveness of music listening in reducing depressive symptoms in adults, showed that the music listening during a period will remove the symptoms of depression in adults. Their findings showed that routine interventions do not appear to be the best than weekly intervention. So it is better to listen to music continuously over a period of more than 3 weeks to occur the exact effects.

Guetin, Florence, Gabelle, Touchon and Bonte [17], in another study, investigated the effectiveness of Music - treatment on anxiety and depression in patients with Alzheimer’s response, and the results suggest that there is a positive effect of music on anxiety and depressive symptoms after the intervention of music therapy.

In another study, Mahmoud Dalvandi, RahgaviT Rahgozar and ZadehMohammadi [27] measured the effectiveness on music therapy on the self-esteem in chronic schizophrenic patients, and they concluded that the active and passive music is to promote self-esteem in chronic schizophrenia.

Castillo-Perez, Gomez perez, Calvillo Velasco, Perez-Compos and Mayoral, also surveyed the effect of music therapy on depression compared two groups of depressed patients. Some were exposed to psychotherapy, based on behavioral therapy and a group exposed to music therapy.

Results showed that the group that was exposed to music showed fewer symptoms of depression than the group that was exposed to psychotherapy. They reached the conclusion that people with mild depression and the medium can support the music to increase the psychological effects.

In a study Burak [6] investigated the effectiveness of music for seniors 80 years old; the results indicate that music therapy can make them feel healthier, less likely to visit a doctor and a significant improvement in depression, loneliness and their morale.

Aldrige, Schmidt, Kaeder, Schmidt, Ostermann [4], in a study, examined the effect of music in the treatment of multiple sclerosis that the results showed; music reduces depression symptoms in patients with multiple sclerosis, anxiety and fatigue in MS patients as well as increased self-esteem and strengthens the sense of self - variability in patients with multiple sclerosis.

Pasha Bakhtyarpour and Akhavan [11] on measuring the effect of live music on memory and attention in patients with schizophrenia in Dezphul Woman Healing Center showed that active music training is effective on attention and memory in patients with schizophrenia.
Due to the problems that patients with multiple sclerosis will buckle the most important of these problems can be anxiety, depression and low self-esteem, they noted, therefore, in this study, the researcher sought to answer the question to what extent the use of music as a nonpharmacologic therapy can be effective in increasing self-esteem in patients with multiple sclerosis? In other words, the main research question was whether the music is effective on enhancing self-esteem in patients with multiple sclerosis?

**Method:**
The method used in this study was experimental and design of pre-test - post-test control group.

**Population, sample and sampling:**
The study included all patients with MS that in the second half of 2012 had referred to the MS Society Tehran that it consists of 650. The research sample consists of 30 patients with MS who were randomly (lottery) selected randomly to an experimental group (n = 15) and a control group (n = 15) were replaced. Thus, among 650 patients with MS that were referred to the MS Society in the second 6-month interval, Tehran, 2012, 100 people randomly selected from the list and responded to the self-Cooper Smith questionnaire. Of these, 38 patients in self-esteem scores were less than 25, that 30 of them were selected as samples randomly. Inclusion criteria for the study population consisted of MS diagnosis by physician that the researcher has accessed to medical records of patients who met criteria for review and consultation with their physicians achieved. Also according to the purpose of the survey, one of the most important criteria of MS research was, to have a score below average on tests of Cooper Smith self-esteem (i.e., a score less than 25), respectively. Exclusion criteria included lack of self-esteem test score below average on Cooper Smith self-esteem test. The data were analyzed in two parts: descriptive and inferential. In the description of the mean and standard deviation, and inferential statistics, variance analyze test with repeated measures was used.

**Tools:**
Self-esteem test of Cooper Smith: self-esteem scale based on theoretical experience on a scale Deymound Rogers (1954) conducted a codification. The scale contains 58 articles, 8 of which it is a lie detector. A total of 50 to 4 scale self-esteem, were divided into social self-esteem, peer, family, and self-esteem, the schools. In addition to the four subscales of the scale, gives an overall score. Method is grading the tests one and zero. In Articles 57, 47, 45, 36, 32, 29, 28, 24, 23, 21, 19, 18, 14, 11, 10, 5, 4, 2, and if yes score is a zero. Obviously, the minimum score for a person may be zero and the maximum would be 50. If a person has 4 score in 8articles of lie detector, it means that test liability is low and the person try to show himself better than his reality.

**Implementing method of music therapy:**
The experimental group was exposed to 15 sessions live and inactive music therapy (each session 30 minute). Inactive music therapy included listening to music. Listening to music consisted of exercises at home that each person was demanded to listen to selected music 3 times (morning-afternoon-night). In other words, the patients listen to music 45 times during 15 days. But, the start of live music was after that each patient listened to selected music at least 6 times, and then enters to the live music therapy step, which consisted of speaking about listening to music. The activities of this part consists of: speaking about music, implementing the music notes by mouth intrinsically (without listening to that music by th

**Results:**
Table 1 Mean and standard deviation of multiple sclerosis patients in self-esteem variable is given.

<table>
<thead>
<tr>
<th>number</th>
<th>Standard deviation</th>
<th>average</th>
<th>group</th>
<th>Stage</th>
<th>Statistical indicator variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>5.07</td>
<td>16.00</td>
<td>test</td>
<td>Pre-test</td>
<td>Self-esteem</td>
</tr>
<tr>
<td>15</td>
<td>4.31</td>
<td>20.20</td>
<td>control</td>
<td>Post-test</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>4.71</td>
<td>36.67</td>
<td>test</td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>3.39</td>
<td>20.40</td>
<td>control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The results in Table 1 show, the mean self-esteem scores at post-test and follow-up of patients with multiple sclerosis compared to pre-test the experimental group showed a decrease (16 vs. 36.67 and 38.47). The average self-esteem group at follow-up (38.47) and comparison with the pretest (16.00) and post-test (36.67), difference in mean follow-up period compared to the pre-test and post-test is much too small, and this could indicate self-esteem lasting effect of music therapy on patients with MS.

Postulates homogeneity of variance - covariance for self-esteem scores in MS patients

Table 2: Results of the homogeneity test of sphericity of interference covariance.

<table>
<thead>
<tr>
<th>Significance (Sig)</th>
<th>Degrees of freedom</th>
<th>Interference factor</th>
<th>Effects of Intergroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>2</td>
<td>0.145</td>
<td>Self-esteem</td>
</tr>
</tbody>
</table>

As you can see in Table 2, the computed value is 0.145 which is the inference sphericity for self-esteem scores is significant at the level of 0.01 > α. The lack of homogeneity of variance - covariance is approved.

Table 5: The effect of music therapy on MS patients' self-esteem.

<table>
<thead>
<tr>
<th>Test name</th>
<th>Amount</th>
<th>DF Hypothesis</th>
<th>DF Error</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wicks Lambda</td>
<td>0.510</td>
<td>2</td>
<td>28</td>
<td>13.433</td>
<td>0.001</td>
</tr>
</tbody>
</table>

In Table 5, the effect of music therapy on self-esteem in the post-test and follow-up of MS patients compared to pre-test statistic based on four Pilaei effect, Wicks Lambda, Hoteling and the largest root-ray effect is investigated. According to the statistics of the Sig, there is a significant difference between MS patients' self-esteem in three stages: pre-, post-and follow-up tests.

Table 6: Summary of analysis of variance to assess the effects of music therapy on MS patients' self-esteem.

<table>
<thead>
<tr>
<th>Test power</th>
<th>P</th>
<th>F</th>
<th>MS</th>
<th>DF</th>
<th>Ss</th>
<th>Sources of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.001</td>
<td>26.686</td>
<td>2314.437</td>
<td>1.078</td>
<td>2387.467</td>
<td>Self-esteem</td>
</tr>
<tr>
<td></td>
<td>82.983</td>
<td>31.266</td>
<td>2594.533</td>
<td>Error</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 6, the results of analysis of variance of the effect of music therapy of self-esteem of patients with multiple sclerosis with a significance level of 0.01 > α imply that there is a significant difference in the self-esteem scores in MS patients measured at three levels: pre-, post-and follow-up. In other words, music therapy has been found to have a significant effect on MS patients’ self-esteem. Therefore, we conclude that music is able to significantly increase the self-esteem of patients with MS.

Discussion:

The purpose of this study was to investigate the effect of music on the self-esteem of patients with multiple sclerosis patients admitted to the Society (MS) in Tehran. The research hypothesis that music has an effect on the self-esteem of patients with MS, showed that music training was effective in increasing self-esteem of patients with MS and the research hypothesis was confirmed. This result was aligned with Askmyd findings [3]. He found that music and music therapy reduce negative thoughts about the disease in MS patients and as a means to express a sense of security, freedom and the joy of acting. Most participants reported that his research in music therapy sessions was effective for their personal healing experience. The feeling of self-esteem and self-confidence in them though is produced. These findings are also confirmed by the R Moreira, Fransa, Moreira and Lana - Pyksouto [31] pointed out that the music can be described as a potential therapeutic strategy for patients with MS. According to the research of Aldridge and Askmyd two reasons for this claim were offered. First, the communication and drama in their music performance will be improved. Second, the music for patients with chronic and degenerative provides strategies for dealing with situations related to identity. The results of Guetin, Soua, Voiriot, Picot and Herisson research [17] showed that music therapy is helpful in mood disorders, anxiety and depression in patients with damaged brain.

An explanation:

It has been said that music participation can provide opportunities for social relationships [35] and make positive changes in their physical and mental states and with it a sense of control over life, raise anxieties and reduce stress confidence and enrich people [9]. The present results indicate that the use of music can be used as a vehicle to promote the mental health of multiple sclerosis patients, and its agenda was placed in the community hospitals Iranian MS patients and their families. The use of music therapy as a nonpharmacologic therapy and complementary therapy not only reduces the high costs, it is very simple to use and readily available and even patients themselves can make use of it to meet their physical and psychological suffering.

Given the positive effects of music on anxiety, depression, pain, and increased self-esteem of patients, especially in patients with multiple sclerosis, authorities and hospital administrators, it has been recommended that they can use non-pharmacological methods of pain relief and anxiety, yet effective vital signs such as music.
therapy with other therapeutic methods to improve the quality of hospital services to their patients. Also it is recommend to officials and nurses that music as a scientific concept is known and regarded scientific angle, and ask the hospital nurses to the music therapy is also useful in conjunction with other non-pharmacological methods to care for their patients. It is suggested that the effect of music therapy as a complementary treatment for chronic illnesses, including mental and physical health should be considered by researchers.

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REFERENCES


