

MUSIC AND MOVEMENT THERAPY IN A PATIENT WITH SCLEROSIS MULTIPLEX – LITERATURE REVIEW

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Abstract

The contribution presents the literature review in the application of music and movement therapy in the nursing care of the patient diagnosed with sclerosis multiplex. Sclerosis multiplex is a disease that damages central nervous system. At present we rank sclerosis multiplex among diseases that cannot be healed, can be only treated and its signs and symptoms can be reduced. Our aim was to find out the potency of music and movement therapy on health condition of a patient with sclerosis multiplex during ten units of exercises done by a patient. We have also focused on appropriate methods and technics of the music and movement therapy.

Keywords: Airways. Music. Movement therapy. Muscular weakness. Sclerosis multiplex

1 Introduction

Our aim was to find out the potency of music and movement therapy on health condition of a patient with sclerosis multiplex during ten units of exercises practised by a patient. We can define music and movement therapy as exercises of patients with their body mass or with various devices on music selected by the patients themselves. Music affects people in a positive way, stimulates them, gives them peace, hope, pleasure or inspiration and in many cases affects their emotions refers to the depth of their emotions [1: p. 46]. Contrary, movement enables patients restore their motor skills that were “lost” after illness, injury, and it also can increase the quality of their lives [2: p. 33].

We have also focused on appropriate methods and technics of the music and movement therapy. In the article we focus on the analysis of foreign research studies that concentrate on music therapy in patients with sclerosis multiplex. We decided to undertake the literature review for the two reasons: first to identify and summarise existing research on a topic music therapy and movement therapy in a patient with SM. Second reason was to evaluate the research that applied to our research question which was:

- *How does music and movement therapy improve the health condition of a patient with sclerosis multiplex?*
- *What is the potency of music and movement therapy to improve fine motor skills, release the patient's body and reduce her or his stress?*

The following table 1 is the literature review that were used in various countries of the world and bring interesting results in the field of music and movement therapy of a patient with sclerosis multiplex.

2 Potency of music as mnemonic device in problems with memory problems in patients with multiple sclerosis

This research was conducted in the years 2007– 2008 at the American university of Colorado, in the U.S.A. The authors were K. S. Moore, D. A. Peterson, G. O’Shea, G. C. McIntosh a M. H. Thaut [3]. Their research indicates that music can be used as the mnemonic device to learning, and the tool in the problems with memory in people suffering with sclerosis multiplex. There were 20 participants in their research sample who were learning in verbal form and the results were gained through memory test.

The results were analysed by the authors, while they compared the learning through music and learning through language. After the analysis the authors collected initial neuro-psychological data, which focused on executive function, skills, learning, memory skill, constant attention and the degree of disability. Their concluding analyses suggest that musical mnemonic device can facilitate learning for people who are less disabled by the disease [3].

3 Music therapy in the treatment of multiple sclerosis

The great challenge for patients with multiple sclerosis is coping with the symptoms of the disease. Therefore, the patients often turn to complementary and alternative medicine. For this reason, T. Ostermann and W. Schmid [4] in Germany decided to investigate the current state of literature the theme of which was music therapy in the treatment of multiple sclerosis.

The authors found two case reports and various studies to the topic while at the same time both case reports and case studies were presented by the pioneer of the theme. In the majority of studies prevail qualitative research designs and uncontrolled research designs. Despite that the results of studies and case reports of patients show the improvement in the domain of self-acceptance, anxiety and depression. Other results provide the sufficient basis

for further music therapy work, because they show different psycho-social and emotional benefits for patients with sclerosis multiplex [4].

Table 1 Literature review of the surveyed problem (own research)

Authors	Year	Number of patients	Population	Aim	Results
Moore, Peterson, Shea, McIntosh, Thaut	2007-2008	20	Patients with sclerosis multiplex and problems with memory	Investigate the potency of music on memory	Improvement of learning, ability to remember things and improve attention and vigilance
Ostermann, Schmid	2006	2	-	Investigate the potency of music on depression and anxiety	Improvement in the domain of self-acceptance, depression and anxiety
Aldrige, W. Schmid, Kaeder, C. Schmid, Ostermann	2005	20	Patients with sclerosis multiplex aged from 24 to 47	Identify the components of diseases sensitive to changes in the treatment of SM	Improvement in the domain of depression, self-esteem and anxiety
Kiesling, Lengdooler	1989	225	Patients suffering with sclerosis multiplex	Investigate the experience people with SM and music therapy	Music therapy as complementary therapy
Wiens, Reimer, Guyn	1999	20	Patients with advanced sclerosis multiplex	Effectiveness of music therapy to support respiratory muscles	Improve diaphragmatic breathing, co-ordination of breath and speech
Weins, Reimer, Guyn	2012	-	Patients with sclerosis multiplex and muscle weakness	Improvement of gait and posture	Significant improvement of gait, faster walking, better co-ordination of movement

4 Pilot experimental studies of music therapy in the treatment of multiple sclerosis

In Germany in 2005 the five scientists: D. Aldrige, W. Schmid, M. Kaeder, C. Schmidt, T. Ostermann started the research, which was aimed to identify which components of the disease are sensitive to the changes that occur in the treatment of patients by means of music therapy contrary to another group of people who received standard therapy [5].

In the survey sample there were included 20 patients with sclerosis multiplex, 14 women and 6 men ranging from 29 to 47 years. Ten participants consisted of group therapy and other ten patients a control group that was closed according to the age and sex. Exclusion criteria were pregnancy and mental disorders that require treatment. The patients in the group therapy received three blocks of music therapy in individual sessions. Measurements were taken before the treatment and then every three months and during the 6 month follow-ups without music therapy after the last consultation. In addition, the data was collected on cognitive and functional parameters.

Result was not very significant difference between the treatment group music therapy and the control group. However, the statistics of the size of effect comparing both groups show how important the effect was on scales that measure self-esteem, depression, or anxiety. There was proven significant improvement in the groups in the assessment of self-esteem, depression and anxiety. The therapeutic concept for SM, which includes music therapy, brings improvement in mood, decrease of fatigue and better self-acceptance. If music therapy is removed, the scale score worsens again [5].

5 The first report on the use of music therapy in multiple sclerosis

In 1989, the scientists Lengdobl H. and W. R. Kiessling [6] published the first report on the experience of people who use music therapy to treat multiple sclerosis. Music group is a specific type of psychotherapeutic treatment.

The research was carried out as follows: Within two years, 225 patients with multiple sclerosis had the opportunity to participate in music therapy, which ran from 4 to 6 weeks since the patients were admitted to the system in SM clinic. There were selected main topics in group sessions, which were associated with disability, feelings of insecurity, anxiety, depression and loss of self-esteem.

The results indicate that music therapy can be applicable as a complementary therapy not only in real psychological support, but also in the individual coping strategies [6].

6 Music therapy as the method to improve airway in a patient with multiple sclerosis

In 1999, M. E. Wiens [7] found that respiratory muscle weakness, mainly of expiratory muscles, is characteristic for people who suffer from advanced stage sclerosis multiplex and may result in difficulty in removing secretions and repeated pneumonia. This pilot study assessed the efficacy of music therapy to strengthen the respiratory muscles with an emphasis on diaphragmatic breathing and coordination of breathing and speech. The study included 20 patients who were randomly divided into two groups. The first, experimental group, was treated with music therapy, and the other was a control group. Shelf muscle strength was measured by testing oral pressure before and after the procedure. In the experimental group there was proved the improvement in terms of the timeout muscle strength, in contrast to the control group, which demonstrated decline. The patients in both groups showed significant weaknesses and results for 79% of the patients were lower than 30% of predicted values [7].

7 Movement and music therapy in muscular weakness

The evidence from 2012 suggests that movement and music may be a promising intervention in the improvement of gait in people who suffer from muscle weakness, because it naturally combines the strategy of movement, balance exercises and physical activities that are aimed at moving to the rhythm and music. The analysis was carried out which focused on the effect of MBM therapy included individual rhythmic music training. In certain studies there were evaluated certain methodological qualities. The analysis of sensitivity revealed significant improvement of gait, walking speed and in the coordination of movement. This therapy therefore can be regarded a suitable method for the improvement of gait, various activities related to walking in a patients with muscle weakness [8].

8 Conclusion

Sclerosis multiplex is a disease that damages central nervous system. At present we rank sclerosis multiplex among diseases that cannot be healed, can be only treated and its signs and symptoms can be reduced [9: p. 147]. At present it can be estimated that there in the Slovak Republic were more than eight thousand people diagnosed with sclerosis multiplex [10]. Serious symptoms of the disease include central movement disorders that are accompanied with spasticity, autonomic reflexes and the presence of pyramidal irritable phenomena [11].

Music and movement therapy in patients with sclerosis multiplex can be used to promote physical, mental and emotional health condition with the purpose of maintaining and improving mental and physical health. The musical impulses stimulate cognitive functions and breathing of an individual. The properly selected rhythm helps patients to control their muscles and organized their movements and gait [12: 12-13].

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