22. POTENCY OF MUSIC AND MOVEMENT STIMULATION IN THE HEALTH CARE OF PATIENTS WITH PARKINSON´S DISEASE

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Abstract: *The study presents the research results aimed at the survey of how music and movement stimulation improves the health condition of patient with Parkinson´s disease (PD). It is a chronic, slowly developing neurological disease, which essentially does not shorten the life of the patient but it impairs its quality. Clinical manifestations of the disease are tremor, stiffness, reduced movement, impaired gait, speech disorders, vegetative and mental disorders. Pharmacological therapy can decelerate the disease, but cannot stop it. The research aim of the study is to determine the potency of music and movement stimulation to improve motor abilities of patients with Parkinson's disease. Research sample represent three female patients suffering from PD for 3-5 years with expressed representative symptoms. The research results of qualitative study prove the potency of music and movement stimulation, applied within 10 and 20 days, on reducing the muscle tension, tremor, improvement of self-care, and stabilisation of patients´ mental condition. Music can be the key to better quality of life in patients with PD.*

Key words: *music therapy, music and movement activation, Parkinson´s disease, physiotherapy, self-care, experiment*

Introduction

Music therapy is considered an interdisciplinary field in scientific research. It integrates the elements of medicine, psychology, music education and aesthetics (Romanowska, 2005, p. 74). Vitálová (2007, p. 8) explains the term music therapy as *"(...) harmonisation of organism by means of melodious music, and in a broader sense treatment with the use of music."* Music and movement therapy was started in 1940s in the United States of America together with the movement therapies that focused on human body. European association of dance movement therapy (EADMT) defined this therapy as psychotherapy activity that helps patients regain the joy from functional activity, the integrity of body and soul, the restoration of a positive self-acceptance, autonomy and bodily symbolism. It has also been considered art therapy by Dosedlová (2012, p. 77-78). It is recommended to patients with Parkinson´s disease to use music during physiotherapy, but also during training and realisation of self-care activities. Music can bring patients needed impulse which stimulates the beginning of movement or walking with the help of rhythmic movements.

Parkinson´s Disease

Parkinson´s disease (PD) was the first time described by a physician from London, Sir James Parkinson in 1817, after whom it has been named. He depicted the disease as the *shaking palsy* (Pfeiffer, 2007, p. 237). Bonnet and Hergueta (2012, p. 13) state that „Parkinson´s disease is the neurodegenerative disease the causes of which are not yet clear. They are related

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to progressive neuronal decline, which begins in the adult age and is slowly extended forward. It concerns the structure of neurons called the substantia nigra that are located in the brain stem of the midbrain. Substantia nigra is the part of basal ganglia (basal nuclei), it provides an input nerve excitement into these clusters and supplies striatal dopamine". The number of neurons has to decline to less than 20 per cent for the disease to be proven (Seidl, Obenberger, 2004, p. 275).

Clinically the important features that are in the forefront of PD are the following: rigidity, tremor, and bradykinesia (Seidl, 2008, p. 123). ***Rigidity*** is muscular stiffness, it is plastic and is present throughout the range of movement, what is revealed in movement of a muscle as so called *cogwheel* (Brozman et al., 2011, p. 151). Some authors depict the phenomenon as many small movements similar to a folding knife (Pfeiffer, 2007, p. 237). Muscle stiffness is scattered on the extremities, especially their endings – wrist and ankle, but it also affects the muscles of the back, shoulders and hips (Bonnet, Hergueta, 2012, p. 19-20). ***Tremor*** is the characteristic feature of Parkinson's disease that emerges in particular on the extremities. It usually starts on the toes of upper arms, and a more significant way unilaterally – on the left or on the right. The movement of the trembling fingers has been likened to a motion during counting money. With the development of the disease, tremor is gradually extended to equilateral lower limb and then it passes to the other side of the body. However, this may not be always the case. The frequency of tremor is usually slow, about 4 to 8 cycles per second. Its character is of relaxing potential, it appears mainly in the situations when a patient cannot move and his or her hands lie idly on the mat, or are hanging down beside his or her body. It is often visible during walking. Patient often moves his hands, for example when feeding, dressing himself or herself and during these activities tremor is usually relieved. In the advanced stage of the disease, the nature of tremor may vary, it continues during movements and then it can bother a patient during self-care activities. Distress, fear, anxiety, but also joy and expectation usually emphasises tremor, and conversely, it disappears during sleep, and mental relaxation also slowly decreases it (Roth, Sekyrová, Růžička et al., 2009, p. 26).

Bradykinesia, akinesia and hypokinesia result in the loss of, or reduced ability to initiate movement, for example, step out from standing position (from standing to walking), stand up from a sitting position, or turn round. Sometimes the patient cannot walk off or stops in front of the virtual barrier, for example there where the corridor narrows. It is a gait disorder, so called *„start hesitation"*(Kadaňka, 2010, p. 106). Also, there may appear a sudden "freeze" motion, at any time, without apparent reason. The spontaneity of movement is slow and is not expressive (Roth, Sekyrová, Růžička et al., 2009, p. 28). All the complex movements should be carefully thought of in advance. In case that a patient wants to step forward or turn round during walking and change his or her direction, he or she has to think of the movement first, before its realisation. As if the movement was made for the first time. This preparation is characteristic for the break-up of automated motion sets. A special feature is paradoxical

cinesia that are connected with negative and also positive emotional excitement. During anger a patient is ill able to give another slap in the face, however, soon after he or she remains stiff in flexion position. During listening to favourite melody a patient can realise even more complex dancing steps and movements, however, when the music stops, relaxedness of movement disappears (Pfeiffer, 2007, p. 238).

A patient with PD is characteristic with rigid position, quiet and monotonous speech, in writing he or she uses small letters. His or her face is motionless, masked, does not change under the impact of emotion, blinking is not frequent (Tyrlíková, Bareš et al., 2012, p. 200). Typical for Parkinsonism is trunk and neck side bending, and shaped limbs (Roth, Sekyrová, Růžička et al. 2009, p. 29). The gait of patients with PD is shuffling one with small steps. Many patients complain that while walking or standing, especially in the forward bend, they feel thrust forward or backward, which biases the centre of the body. This pull is so strong that the patient may lose balance and fall, there is threat of so called "pulsation" (Roth, Sekyrová, Růžička, 2009, p. 29). Pulsation is also seen when a patient is unable to cope imbalances because of synkinesis and tries to compensate it by small steps (Tyrlíková, Bareš et al., 2012, p. 201).

Except for movement disorders PD patients also suffer from vegetative and mental disorders. Increased salivation and sweating belong to ***vegetative disorders***. Their skin is usually oily, contributing to a mask-like appearance of the face. For the patients it is difficult to regulate blood pressure during changing position (Tyrlíková, Bareš et al., 2012, p. 201). There is a frequent occurrence of ***mental disorders*** in patients with PD, and already in the early stages of the disease (Roth, Sekyrová, Růžička et al., 2009, p. 31). In the late stage of the disease there is an occurrence of hallucinations, delusional states and dementia, which demonstrate a progression of the degenerative process and also chronic dopaminergic therapy (Tyrlíková, Bareš et al., 2012, p. 202).

Music and Movement Stimulation and Music in the Treatment of Parkinson´s Disease

Music Therapy is often explained as part of non-pharmacological therapy, physiotherapy and overall health care. Present day research, and also the experiences of patients and practising therapists have confirmed the phenomenon of neuroplasticity of the brain, within which it is supposed that music has the potency to restore certain parts of the old connections and create new ways of replacing the ones destroyed by the disease. Rhythmical music activates patient´s motor system and helps him or her to begin and end the movement, facilitate daily activities, maintain memory, improve mood and reduce pain. The selection of music is individual, some patients satisfy and prefer certain compositions for training, and other ones to get up. Rhythmical stimuli is important and patient can set background music aloud or have it "in memory". After training the particular rhythm a patient is able to induce movement (Gerlichová, 2014, p. 38-40), and that is a step to his or her independence and self-sufficiency. Kołodziejski (2012, p. 85) believes, that

music therapy programmes can be applied in various levels of education with the aim to minimise the negative consequences of civilizing influences, alleviating other problems related to mental and physical violence, or to aggressive behaviour of some personas, and with the aim to examine the potency of music on the improvement of institution climate. Tichá (2014, p. 51-62) defines the purpose of music and movement activities as follows:

- ***Activities inducing the entire body release:*** with the aim "to relieve tiredness, to reduce stress, to release vocal overstrain, to induce joyful lightness" (Ibid., p. 53).
- ***Activities inducing conditions for deeper breathing and breath props****:* aim is "conscious straightening of the body. Wrong posture indicates flabbiness and non-functional overstrain. It limits breath and it often causes pain or tiredness" (Ibid., p. 54).
- ***Activities inducing shoulders and nape release as a conscious feeling*****:** with the aim to "release tension arisen as a consequence of too much responsibility, stress and wrong body posture (accumulated in the head). These exercises help remove the most common cause of vocal malfunction – in the shoulders and nape areas" (Ibid., p. 56-57).
- ***Activities to release the tongue root tension and the tension of the chin and jaws***: with the aim to "release the tongue root tension (the result of a long-time stress, stage fright, anxiety). To remove the chin moved forward (moving forward the chin is a habit connected to strenuousness/intensity when a person is, for example, trying to express something urgently or trying to gain authority by means of the "offensive" chin, etc.). To remove the head moved forward, which is a result of a wrong body posture, wrong working habits, e.g. when working on the computer or communicating with others" (Ibid., p. 57).
- ***Activities to release the tension of lumbar area and solar plexus***: with the aim "to release the tension in the area of lumbar spine, which is the result of many aspects: wrong body posture, impossibility to relax, being continuously alert), or long-time stress (Ibid., p. 59).

Music and movement activities can be aimed at postural functions and movements of head, locomotion, mobility of the upper extremities (including gripping motor functions and finger coordination functions), visual-motor coordination, coordination of upper limbs in patients with PD. In addition to the extended range of performed movement, they can support patients´ strength, speed, endurance, coordination, accuracy, and range (in locomotor function the music and movement can also support their balance). Dosedlová, Kantor (2013, p. 62-64) include to the appropriate music and movement activities the following: individual dancing, dancing in pairs and in groups; action songs; conducting; music and movement games.

Research Aim

The research aim was based on the assumption that the proper selection of music could significantly enhance patient quality of life by improving their motor abilities.

The aim of the study was to investigate the potency of music therapy techniques in reduction of the clinical signs of Parkinson´s disease, to improve self-care and mental health within 10 and 20 days.

Methodology

Qualitative research was conducted by the method of *case study*. Participants of the study were three female patients with Parkinson's disease identified as Mrs A and Mrs B and Mrs C. For the input and output measures were used:

- Anamnesis with a focus on current disease, associated diseases, a method of therapy, pain and psychological aspects.
- Side view and front view examination.
- Examination of muscle tension by palpation.
- Examination of muscle strength (neck, upper and lower extremities, trunk).
- Measurement of motor efficiency.
- Unified *Parkinson Disease* Rating *Scale (UPDSR).*
- Instrumental Activities of Daily Living Scale (IADL).
- The Barthel Index of Activities of Daily Living (ADLs).
- Abbreviated Mental Test Score (AMTS) by Gainda.
- Questionnaire: Musical background, skills and preferences by Kantor (Kantor, Lipský, Weber, 2009, p. 266).

For Mrs A, we made a plan of movement activities for 10 days without application of music, because she did not prefer it.
For Mrs B, we made a plan of movement activities for 10 days with music activities according to her choice and musical taste.
For Mrs B, we made a plan of movement activities for 20 days with music activities according to her choice, musical taste and we added dance.

As female research participants disagreed with making photos and video recording during the research, we recorded the progress of music and movement intervention programme by a diary method.

The case study was realised in health and social facilities in Trenčín region in the period from January 2015 to March 2015.

Research Sample

Mrs A: 79-year old woman, treated for Parkinson's disease (for three years). Associated diseases are: high blood pressure, rheumatoid arthritis, two times surpassed heart attack. She complained of the pain in the lower limbs at the knees, which she assessed as dull pain – grade 6 on the scale of 1 to 10, where 10 was the worst pain. Pain waked her at night. For her age she was in good mental health, oriented in the time, place and person. Her expression was good and speech was slower, but comprehensible. She was willing to train, however, without music, because she never had good relationship with music.

Entrance examination: there was prevalent upper-chest breathing, and was present upper limb tremor. Tremor limited the patient during activities of daily life (ADL) – frequent spills during meals. Standing up from the chair and the

bed handled slowly, but by herself. She was in the forward bend all the time, there was visible semi flexion of upper extremities, trunk was in the position of flexion and her knees are also flexed. She needed a lot of time to stand up and could walk with the aid of walking stick. She was able to start walking, but with shuffling gait, she did not lift her feet from the ground, and all the time she was in the position of flexion. During side view significant thoracic kyphosis and flabby abdominal muscles were visible. Using palpation, there was discovered an increased muscle tone of the upper limbs and in the trapezius muscle on the neck. Scales to assess the level of self-sufficiency (IADL, ADL and UPDVSR) indicated partial dependence.

A Ten-Day Activity Plan

A ten-day activity plan included a combination of exercise and music and the following:

- Education of correct turning in bed, sitting and standing up.
- Vascular gymnastics.
- Respiratory exercises.
- Swing exercises tightening knees to the trunk lying down, lifting the knee flexors, leg extensions, dithering, circling the ankle, pulling the shoulders to the ears, chin sliding.
- Stretching exercises to relieve muscle stiffness.
- Exercises aimed at fine motor skills, training agility of hands (work with plasticine, threading beads, drawing, and writing).
- Speech exercises.
- Training walking on a wider basis with voice stimulation.

Mrs B: 72-year old woman, treated for Parkinson's disease (five years). Associated diseases were: diabetes mellitus (insulin treatment) and high blood pressure. She complained of pain in the knees, which were bandaged, problem getting up or standing up from an armchair and significant tremor which was a complication chiefly during meals. Three years ago her health condition worsened, in the result of which she was confined to a wheelchair. In the present she used walking stick. She was in a good mental health, oriented in time, place and person. Her speech is comprehensible. Due to her health condition she wasoften anxious. However, her relationship to music was positive and she agreed with the application of music therapy. Her favourite authors were popular Czech and Slovak groups and singers: Karel Gott, Elán, IMT SMILE and Slovak folk songs, because she was a former folk dancer. Her favourite foreign pop groups were Queen and Beatles. From classical music she preferred compositions by Mozart and Beethoven.

Entrance examination: Significant tremor in upper limbs was observed from side view. She could manage standing up and sitting down, her trunk and upper limbs were held in flexion. From front view and back view her right shoulder joint was significantly higher. In a step to walk the patient did not have a problem, her gait was shuffling one. From the side view there was visible forward head posture, and highlighted thoracic kyphosis. Palpatory examination

showed an increased muscle tone at the upper and lower extremities, with greater sensitivity in the right trapezius muscle. Assessment scales evaluating the level of self-sufficiency (IADL, ADL and UPDVSR) indicated partial dependence.

Table 1. The Combination of Exercise and Music – Mrs B

Exercise - Activation	Music
• Vascular gymnastics. • Swing exercises tightening knees to the trunk lying down, lifting the knee flexors, leg extensions, dithering, circling in the ankle, pulling the shoulders to the ears, chin retraction, practicing of proper rotation on the bed, standing up and sitting down. • Training walking on a wider basis. • Speech exercises.	• Expressive music therapy **Action Listening** • Slovak pop music singers and groups mainly 1980s and 1990s: Elán, IMT SMILE, singer Karel Gott, Slovak folk music. • Voice accompaniment of a therapist. • **Vocal performance – singing + binarity** (clapping hands, stomping), Slovak folk music.
• Respiratory exercises. • Stretching exercises to relieve the muscle stiffness. • Exercises aimed at soft motor skills, training the agility of hands (plasticine, threading beads, drawing, writing slowly, drinking from a cup, eating with a spoon).	• Expressive music therapy, Eurythmic listening to music- • Mozart, Beethoven, Queen, Beatles • **Music improvisation** – spontaneity in creating new musical pieces by means of elementary musical instruments, such as Orff instruments: jingle bells and finger cymbals.

Mrs C: 70-year old woman, treated for Parkinson's disease (for five years). Associated diseases are: high blood pressure, exchange of the right hip and overcome stroke. The patient feels dull pain in upper extremities with the intensity on the scale 6-7, chiefly after hard exertion. She used walking stick, sometimes she feelt dizzy and feelt as if has lost her balance. She was in good mental health, oriented in time, place and person. Her speech was generally little quieter, but comprehensible, her vocabulary was due to her age quite strong. She had a positive attitude to music, prefers Slovak folk music, and liked singing. She used to dance in her youth.

Entrance examination: Enhanced mild tremor of upper limbs was visible from front view. She was able to sit down, stand up, her trunk and upper limbs were held in flexion. Her gait was characterised by small and short shuffling steps. Muscle strength was weaker in upper limbs. She used walking stick when walking. From the side view there was visible flexion and forward head posture. Palpatory examination showed an increased muscle tone at the upper and lower extremities. Scales to assess the level of self-sufficiency (IADL, ADL and UPDVSR) indicated partial dependence, which means that some activities took her 3-4 times longer in comparison to healthy individual, and her self-sufficiency was 70%.

A Twenty-Day Activity Plan

A twenty-day plan included the combination of exercises and music.

Table 2. The Combination of Exercise and Music – Mrs C

Exercise - Activation	Music
Respiratory exercises.	• Expressive music therapy, Eurythmic Listening • CD: Ladislav Chudík – A journey to release II, relaxation music.
Activities to improve facial diskinesia – facial muscles, improvement of expressing emotions, speech exercises.	• Expressive Music Therapy Action Listening • CD: Vlasta Mudríková 5 – folk music with the accompaniment of accordion.
Training of correct rotation in the bed, sitting down and getting up, training to sit down on the chair and stand up.	• Expressive music therapy Action Listening • CD: Vlasta Mudríková 2 – folk music with the accompaniment of accordion.
Activities to improve gait and walking.	• Expressive music therapy Action Listening • CD: Vlasta Mudríková 5 – folk music with the accompaniment of accordion. • Music and movement activities: tango dance.

Research Results

Research results are presented in table 3.

After music and movement intervention, we observed the following:

- Relaxation of muscle tone of the extremities, and in Mrs C also the relaxation of facial muscles.
- Improvement of motor function – agility and coordination, improved dynamics of steps when walking, more natural and stable walking. Mrs C stopped using walking stick, which she replaced by crutches.
- Relaxation aimed at tremor, in Mrs A, where the exercise was not accompanied by music, tremor was not reduced.
- Improvement of self-care, the most significant in Mrs C who escaped from partial dependence to light dependence. In the practice it means that she was faster in self-care activities, before the music intervention they took her 3-4 times longer and after music intervention they took her 2-3 times longer time.
- Improvement of mental well-being, stress relief of anxiety and anxiety most significant in Mrs C. Most positive emotions emerged in the activities with incorporated dancing elements (tango dance).

Table 3. Effect of Exercise, Music and Movement Activation in Female Parkinson´s Patients

	Mrs A Exercise – activation		**Mrs B** Exercise and music		**Mrs C** Exercise, music and dance	
	Before exercise	**After exercise**	**Before exercise**	**After exercise**	**Before exercise**	**After exercise**
Stiffness	Increased muscle tone in particular on the top and slightly in the lower extremities	Decreased muscle tone of the upper and lower extremities, flexion posture	Increased muscle tone in particular on upper and slightly in the lower extremities	Relief of muscle tone, flexion posture persists, it can affect the patient after a warning, and	Increased muscle tone at the upper and lower extremities, at the	Decreased muscle tone of all muscle groups.

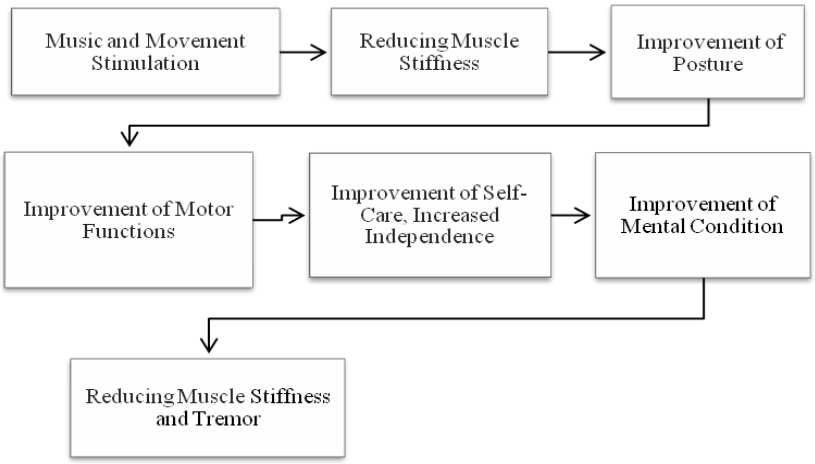
	and neck.	persists.	and neck.	muscle tone in the neck persists.	neck and face.	
Gait	Walking stick, small, shuffling steps, uncertainty, passed without pain 18 m.	Walking stick, walking on a wider basis, greater stability, moves 20.5 m: improvement of 2.5 m.	Shuffling small steps, she can walk with no pain 20 m.	Walking on a wider basis, greater certainty, she can walk 25 m with no pain goes 25 m, an improvement is 5 m.	Walking stick, small, shuffling steps.	Walking on a wider basis without walking stick, use of crutches, greater stability.
Tremor	Strong.	Strong tremor, varies depending on emotional state of patient.	Strong in both upper limbs.	Reducing tremor during a meal when co listening to music.	Mild tremor of upper limbs.	Tremor occurs only in stress and emotional distress.
Self-care	Partial dependence.	Partial dependence.	Partial dependence.	Partial dependence, increased quality of self-care activities during listening to music.	Partial dependence.	Light dependence.
Mental condition	Occasional anxiety, increased tension.	Feeling greater comfort.	Emotional lability, anxiety.	Improvement of psychological well-being, elimi-nation of anxiety	Emotional lability.	Improved mental well-being, ease stress.

After music and movement activation there occurred the slight improvement in all three patients, even in Mrs A, where exercise was not accompanied by music. In Mrs B and Mrs C there was proven a noticeable improvement in mental condition, decreased muscle tone, reduced tremor, and the self-care activities were slightly improved. The most significant improvement occurred in Mrs C who showed greatest affinity to co-operate. The activation lasted for 20 days, thus we can suppose that longer, regular exercises will induce stronger potency of music and movement intervention on movement skills of female Parkinson´s patients.

We paid special attention to the selection of music according to musical preferences of patients. In Parkinson´s patients activating and rhythmical music has to be alternated with relaxing and slower music. Exercise is needed to be planned in advance. It is a necessity to examine patient with the emphasis on posture, muscle stiffness and strength, tremor, self-care activities and assessment of mental condition. It is important to evaluate personal affinity of a patient to music and dancing. The selection of music should be subordinated to the

demands of a patient. It is also important to practise the activities every day. The music that was proven reliable should be played during self-care activities, mental disgruntlement with the aim to induce well-being and reduce stress. The effect of music and movement activation is depicted in the figure 1.

Figure 1. Music and Movement Activation and Motor Skills in Parkinson´s Disease



Discussion

In the research study we try to assess the positive potency of music and movement activities on female patients with PD. We found out that the effect of exercise and music was reached after 10 days of scheduled activities. It was important to exercise also without music, however, the potency was not that significant. Berger, Schnek (2003, p. 687) believe that music can be used in patients with PD, to begin movement impulses, stimulate motor function and mobility of the patient. The impulses also stimulate breathing and cognitive functions. The rhythm of music that was appropriately established, could help patients to get muscles under control, and their movement and gait could get organised.

Our case study has proven that music stimulation has the potency to decrease muscle tone not only based on subjective feelings of the patients, but also based on palpation examination, music and movement activation. There was decreased tremor in self-care activities, improved motor functions, especially standing – walking – sitting. And there were also improved fine motor skills. Music also helped to maintain good mental health of the patients and their willingness to cooperate. An obvious improvement of motor function and mental health of patients with PD makes it possible to work upon the dependence in all aspects of everyday life (Amtmannová et al., 2007, p. 42).

The positive potency of music was proven not only in locomotive, but also in mental domain. Taking into consideration that PD is the slowly developing disease of individual´s progress, there is a frequent occurrence of mental restlessness in the sense of depression, anxiety, and fear (Roth et al., 2009, p. 147). Due to stiff facial muscles, the expression of emotions is more difficult for patients with PD. Music can help them express despair, grief, fright, depression, anxiety, stress, joy, ecstasy, exhilaration, excitement, love (Berger, Schneck,

2003, p. 687), and music and movement activation can help them release facial muscles. It was proven, that the performance of music and movement activities has positive impact on psychological well-being of patients and on how they experience stress. Music also provides an ideal opportunity to maximize social interaction in patients with PD (Sherrati, Thornton, Hatton, 2004, p. 3-12).

And finally music and movement activities can provide patients with PD an opportunity to express themselves and to be in contact with other patients of the group. They offer them positive stimuli and possibility to experience feelings of closeness in a manner that is usually friendly and nonthreatening for them (Dosedlová, Kantor, 2013, p. 91).

Conclusions and Recommendations for Practice

Music activates motor system of a patient with PD. The most significant improvement is during the period when a patient is listening to and performing music. It functions the same way as the dopamine dosed to the body in a sufficient quantity. During the time when the music sounds, persons with PD can walk, move, or do the housework. However, when the music stops playing, the problems connected with the disease return back, even if during regular music and movement activation a slight improvement may occur.

Music can be incorporated into regular regime of patients with PD. Regular therapeutic regime and regular music and movement activities can improve the quality of life of a patient with PD.

Recommendations for Practice:

- Integrate music and movement activation in the care of patients with PD.
- Individual approach, thorough assessment of patient´s overall condition and the selection of appropriate music intervention, according to the identified problems. During the activation therapists should concentrate on mental health, motor functions, movement, self-care activities and socialisation of a patient.
- Find out the information about patient´s musical background, preferences, frequency of music listening, musical genre, instruments, favourite interprets, pop groups and focus on active performance of music and its function in the life of a patient.
- Design the plan of music and movement activation together with a patient in regard to his or her overall health condition.
- Active and regular performance of music and movement activities with a patient and observation of his or her reactions and progress.
- Active use of rhythmic music in the performance and training of self-care activities in a patient with PD.
- Education of a patient and his or her relatives about the possibility to perform music and movement activities.
- Improve the quality of the research activities focusing on music and movement activation in patients with PD.

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