НАПРЯМ 7. СВІДОМЕ Й НЕСВІДОМЕ: ПРОБЛЕМА СПІВВІДНОШЕННЯ В ПСИХІЧНІЙ ОРГАНІЗАЦІЇ ІНДИВІДА, СУЧАСНІ ТЕРАПЕВТИЧНІ ПРАКТИКИ

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Meyer A. A.,
Registered Music Therapist,
Master in Creative Music Therapy at Western Sydney University
(Sydney, NSW, Australia)

«RASDANCE» MUSIC THERAPY METHODS AS A WAY TO IMPROVE THE PSYCHOLOGICAL STATE OF A PERSON WITH PARKINSON'S DISEASE

Summary. The following theses are practical techniques that suggest improvement in patient's quality of life and mental well-being. It explores the connection between music therapy and movement, offers an intervention that combines both methods in a therapeutical context, and proposes an application of such intervention for patients with Parkinson's Disease. The focus of the proposal is to explore the effectiveness of the intervention on the non-motor symptoms of patients.

Key words: Quality of Life, mental health, Music Therapy, RAS, Dance for PD.

Мейер О. А. Музико-терапевтичні методики «RASDance» як спосіб покращення психологічного стану особи із захворінням Паркінсона

Анотація. Наступні тези є практичною пропозицією впливу на якість життя та психічне благополуччя пацієнтів . Досліджується зв'язок між музичною терапією та рухом, пропонується застосування впливу який поєднує ці два методи в терапевтичному контексті. Пропонується застосування такого впливу для пацієнтів із хворобою Паркінсона. Пропозиція спрямована на вивчення ефективності втручання щодо немоторних симптомів пацієнтів.

Ключові слова: якість життя, психічне здоров'я, Музикотерапія, RAS, танець для хворого із захворінням Паркінсона.

Background. Parkinson's disease (PD) – is a progressive neurological disorder where a range of motor and non-motor challenges affect a patient's quality of life. This condition is comprised of both motor and non-motor symptoms. Some of the known motor symptoms are tremors, rigidity, and bradykinesia. Non-motor symptoms include anxiety, depression, sleep disorders, pain, dementia, and other psychological conditions [2]. Given the symptomatic complexity of PD, all aspects of life can be affected. Mood disorders are present in 20-50% of patients, and depression and anxiety are the most common.

Traditional treatment methods are symptomatic and more geared towards treating patients' motor symptoms: Dopamine replacement therapy, deep brain stimulation, dopamine enhancing medication [2]. However, due to the increasing evidence of limited efficacy of those treatments and side effects, such as freezing of gait (FOG), the alternative, non-invasive treatment methods, such as music therapy and movement, rhythmic queuing, and dance, have a growing presence [3].

Literature sources reviewed by November 2022 have presented evidence geared towards measurable motor parameters such as stride length, the swing of an arm, walking velocity, cadence, and FOG etc. Evidence related to non-motor symptoms – sleep disorders, cognitive decline, pain, depression, anxiety, motivation etc., was less prominent. With that in mind, this proposal aims to explore music therapy that includes movement in relation to non-motor symptoms, specifically in relation to depression, anxiety, and motivation.

Neurological background. One of the key differences between the developed brain of Homo Sapiens and one of its ancestors is the increase in capacity to process auditory information. Specifically, temporal lobes – areas behind the ear, prefrontal cortex – an area at the front of the brain, and premotor cortex – an area adjacent to the frontal lobe and the primary motor cortex. Beyond their primary roles of processing auditory information, language, working memory, and influencing motor behaviour, they play a key role in their connection to Basal Ganglia nuclei – a cluster of neurons forming a network deep at the base of the brain, known for facilitating movement functions, movement behaviours, and associated emotions [4].

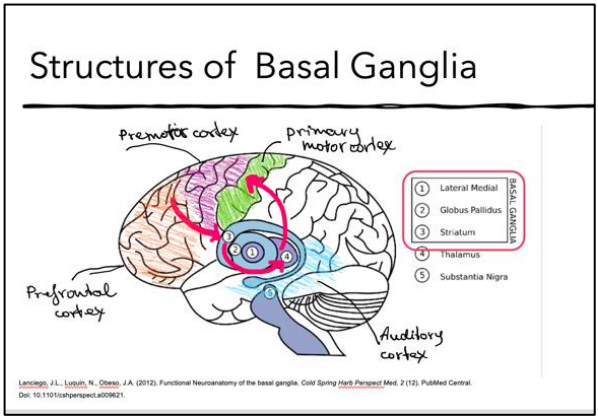

Image 1

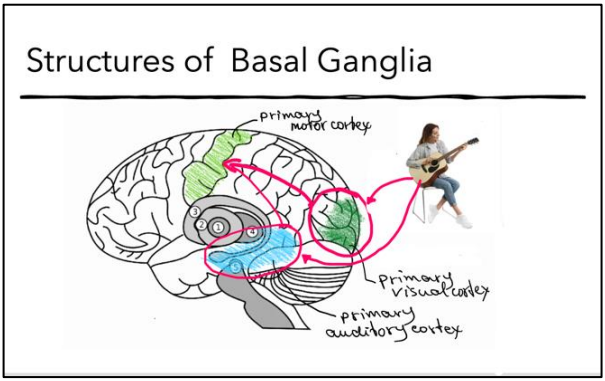

Image 2

Dopamine deficiency in that region disrupts the ordinary operation of BG (see image 1), which is directly linked to the cause of the disease [2]; [5]. Although, as Li et al. (2022) highlight, disruptions start in Basal Ganglia, they expand to other networks, progressively altering a person's internal perception of timing, causing motor and non-motor symptoms, and that way affecting their quality of Life [1].

Neurologically speaking, it may be possible to employ alternate cerebellar networks that rely on different external stimuli driven by the audio and visual cortex to compensate for the loss of brain function (*See Image 2*). The term

used for this process in Neurological Music therapy is Rhythmic Auditory Stimulation (RAS).

Rhythmic Auditory Stimulation (RAS) is defined by Thaut & Hoemberg (2016, pp. 69-93) [7] as 'the application of rhythmical auditory stimuli associated with the initiation and ongoing facilitation of gait and gait-related activities, by providing a reference for timing of movements.' Implementation of RAS contains six steps that have to be strictly followed for the desired outcome. The following steps are outlined in Thaut (2016, pp. 99-103) [7].

Application of RAS protocol increases activation in neural connectivity between the auditory cortex and executive control network, primary motor cortex and cerebellum, basal ganglia and premotor cortex. RAS carries immediate and long-term improvements in motor symptoms, especially in gait and associated motor behaviours.

Dance for patients with Parkinson's disease. Dance is considered a multi-dimensional activity that, due to its musical elements, rhythmical movement and expressive qualities, can target both motor and non-motor symptoms [3]. Due to the social element, dance has the potential to decrease isolation, defuse negative emotions like anger, and reduce depression and anxiety [3]. It has been known to improve cognition, mood, and general quality of life [6].

Proposed study design: It is proposed to present a framework combining RAS and Dance elements into one intervention – RASDance. As a base for the combination, the study utilised 6 steps of RAS protocol outlined in [7]. The combination aims to affirm the RAS protocol as a robust neurological evidence-based approach with its outcomes on gait-related parameters and to infuse it with aesthetic and expressive qualities of dance movement. It is perceived that this combination will bring motivational, enhancing qualities to the RAS protocol without impacting the neurological benefits. Implementing this intervention in a group setting introduces an element of community and togetherness and will directly target feelings of isolation, depression and anxiety.

Proposed Intervention. The group of 15 patients will be treated with 1 hour of music therapy and movement program 'RASDance' once a week, over 10 consecutive weeks. The effect of the program is proposed to be measured by a qualitative open-ended interview with patients and a quantitative survey with a primary carer. Although the interviews will be of a general nature, the prime focus for assessment will be symptoms of depression, anxiety, and effects on motivation towards activities of daily living. The questionnaire has been formulated using the adaptations from the MDS-UPDRS scale. The process of data analysis is still being carefully considered.

Anticipated outcomes. After completing the program, the study anticipates that the dance program will positively affect the participants' quality of life. It is anticipated that the proposed program will improve the symptoms of depression and anxiety and increase motivation towards daily tasks for patients. It is anticipated that the social element of the group setting will carry enhancing qualities to the general well-being, such as increased self-esteem, happiness, and better sleep, are amongst expected. Furthermore, this research anticipates a positive impact on the process of the program by igniting feelings of togetherness and increasing confidence in participants' motor abilities.

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