



International Journal of Innovative Technologies in Social Science

e-ISSN: 2544-9435

Operating Publisher
SciFormat Publishing Inc.
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW,
Calgary, Alberta, T3E0A7,
Canada
+15878858911
editorial-office@sciformat.ca

ARTICLE TITLE	RHYTHMIC-CUED DANCE INTERVENTIONS IN DANCE THERAPY FOR GAIT AND MOBILITY DEFICITS ACROSS NEURODEGENERATIVE DISORDERS
----------------------	--

DOI	https://doi.org/10.31435/ijitss.2(50).2026.5706
------------	---

RECEIVED	02 March 2026
-----------------	---------------

ACCEPTED	27 May 2026
-----------------	-------------

PUBLISHED	09 June 2026
------------------	--------------

LICENSE



The article is licensed under a **Creative Commons Attribution 4.0 International License**.

© The author(s) 2026.

This article is published as open access under the Creative Commons Attribution 4.0 International License (CC BY 4.0), allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

RHYTHMIC-CUED DANCE INTERVENTIONS IN DANCE THERAPY FOR GAIT AND MOBILITY DEFICITS ACROSS NEURODEGENERATIVE DISORDERS

Oliwia Zynek (Corresponding Author, Email: oliwkazynek@gmail.com)

Medical University of Warsaw, Warsaw, Poland

ORCID ID: 0009-0000-5537-565X

Julia Dobrowolska

Medical University of Warsaw, Warsaw, Poland

ORCID ID: 0009-0008-9498-9521

Alicja Palus

PRODENTAL Private Dental Clinic – Joanna Bronowska, Legionowo, Poland

ORCID ID: 0009-0002-7462-6893

Filip Kamyszek

Corten Dental Medical Center, Dental Clinic, Warsaw, Poland

ORCID ID: 0009-0000-2767-8215

Kornel Pawlak

Medical University of Warsaw, Warsaw, Poland

ORCID ID: 0009-0009-6435-6587

Marcin Stępiński

Medical University of Warsaw, Warsaw, Poland

ORCID ID: 0009-0004-5878-6293

Marta Krężolek

Medical University of Warsaw, Warsaw, Poland

ORCID ID: 0009-0004-3646-5640

Mateusz Balicki

Corten Dental Medical Center, Dental Clinic, Warsaw, Poland

ORCID ID: 0009-0002-5066-9645

Paula Kaczmarczyk

CITODENT Dental Center, Oława, Poland

ORCID ID: 0009-0005-6099-5657

Tomasz Arkuszyński

Wrocław Medical University, Wrocław, Poland

ORCID ID: 0009-0001-4894-361X

ABSTRACT

Background: Gait and mobility impairments such as postural instability and freezing of gait, represent significant clinical challenges across neurodegenerative disorders, including Parkinson's disease (PD), Multiple Sclerosis (MS), Huntington's disease (HD), and dementia. Traditional rehabilitation often fails to address the complex integration of motor and cognitive domains. Rhythmic-cued dance interventions have emerged as a multifaceted approach, leveraging auditory-motor synchronization to bypass impaired neural circuits.

Objective: This review synthesizes evidence regarding the effectiveness of rhythmic-cued dance in improving gait and mobility across a spectrum of neurodegenerative conditions, exploring both clinical outcomes and underlying neurobiological mechanisms.

Methods: A systematic synthesis of literature published between 2015 and 2025 was conducted, focusing on randomized controlled trials and pilot studies involving structured dance genres and rhythmic auditory stimulation (RAS).

Results: Analysis of 18 key papers indicates that rhythmic-cued dance leads to significant improvements in gait speed, stride length, and balance. In PD, interventions like Argentine Tango potentially reduce gait freezing by providing external temporal cues. In MS and HD, these programs are associated with enhanced postural control and functional endurance. The benefits are linked to neuroplastic changes, including the recruitment of the cerebello-thalamo-cortical network and the motivational effects of "groove." Recent evidence also suggests the feasibility of technology-assisted delivery models.

Conclusions: While rhythmic-cued dance is a safe and engaging adjunct to standard care, significant clinical heterogeneity necessitates further research into optimal dosing and long-term outcomes.

KEYWORDS

Dance Therapy, Rhythmic Auditory Stimulation, Neurodegenerative Disorders, Parkinson's Disease, Multiple Sclerosis, Gait Disorders, Mobility, Neuroplasticity, Rhythmic Cueing, Motor Rehabilitation

CITATION

Oliwia Zynek, Julia Dobrowolska, Alicja Palus, Filip Kamyszek, Kornel Pawlak, Marcin Stępiński, Marta Krężolek, Mateusz Balicki, Paula Kaczmarczyk, Tomasz Arkuszyński. (2026) Rhythmic-Cued Dance Interventions in Dance Therapy for Gait and Mobility Deficits Across Neurodegenerative Disorders. *International Journal of Innovative Technologies in Social Science*. 2(50). doi: 10.31435/ijitss.2(50).2026.5706

COPYRIGHT

© **The author(s) 2026.** This article is published as open access under the **Creative Commons Attribution 4.0 International License (CC BY 4.0)**, allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

Introduction

The progressive nature of neurodegenerative disorders, such as Parkinson's disease (PD), Multiple Sclerosis (MS), Huntington's disease (HD), and various forms of dementia, is characterized by the deterioration of motor functions, with gait and postural control being among the most critically affected domains. These mobility deficits, ranging from reduced walking speed and stride length to complex axial symptoms like freezing of gait (FOG) and dynamic instability, profoundly impact independence and increase the risk of falls [12, 16]. While pharmacological treatments and surgical interventions (e.g., Deep Brain Stimulation) remain the standard of care, they often provide suboptimal relief for these specific locomotor challenges [10, 12]. Consequently, there is an urgent clinical need to identify non-pharmacological, multidisciplinary interventions that can effectively address the complex interplay between motor execution and cognitive processing required for functional mobility [1, 6].

In this context, dance-based rehabilitation, particularly interventions incorporating rhythmic auditory cueing, has emerged as a promising modality that simultaneously addresses sensory-motor synchronization, cognitive engagement, and social interaction [1, 6, 8, 12]. The term "rhythmic-cued dance" refers to structured movement patterns that are temporally synchronized with external auditory stimuli, such as a metronome or musical beat [10, 16]. The theoretical foundation for these interventions lies in the concept of Rhythmic Auditory Stimulation (RAS), which posits that external temporal cues can bypass damaged internal timing mechanisms, such as those in the basal ganglia, by recruiting alternative neural pathways [10, 15, 16].

Current research suggests that the efficacy of dance therapy may be rooted in neuroplasticity [1, 6, 8]. Specifically, rhythmic-cued movement appears to facilitate the recruitment of the cerebello-thalamo-cortical

network and enhance connectivity between the auditory and premotor cortices, effectively compensating for the dopaminergic deficits seen in disorders like PD [6, 16]. The "groove" factor – the psychological desire to move to a beat – along with the emotional salience of music, may increase patient adherence and motivation, which are major barriers in traditional rehabilitation [2, 8].

Despite the promising evidence reported across various studies, significant clinical and methodological heterogeneity remains [5, 11]. Variability in dance genres (e.g., Argentine Tango, ballroom, contemporary dance), intervention duration, and patient populations makes it challenging to establish standardized clinical protocols [13]. Given the diversity of clinical approaches and the evolving nature of neurobiological research in this field, a systematic synthesis of recent findings is essential [1, 6]. This review examines how rhythmic-cued dance interventions influence locomotor functions, focusing on both clinical efficacy and the neuroplastic mechanisms that drive functional recovery.

Aim

The primary objective of this review is to evaluate the effectiveness of rhythmic-cued dance interventions in improving gait parameters and functional mobility in individuals with neurodegenerative disorders. Furthermore, it seeks to identify the neurobiological mechanisms underlying these improvements and discuss the feasibility of various dance genres as an adjunct to standard clinical care.

Materials and Methods

This review utilizes a thematic synthesis to evaluate peer-reviewed research published between 2015 and 2025. To maintain a high standard of clinical evidence regarding motor and neurobiological recovery, the inclusion process centered on longitudinal and experimental research, specifically targeting randomized controlled trials (RCTs), systematic reviews, and pilot feasibility assessments. This methodological approach was adopted to distinguish the unique therapeutic effects of rhythmic-cued dance from the broader outcomes of general physical exercise, allowing for a focused investigation into auditory-motor synchronization and neuroplastic adaptation.

A systematic search was conducted across primary academic databases, including PubMed (MEDLINE), Scopus, Web of Science, and ScienceDirect. The search was designed to synthesize contemporary clinical trials and advancements in neuroimaging and gait assessment technologies over a ten-year longitudinal period. Keywords and Boolean operators were used to capture the intersection of dance therapy, rhythmic auditory stimulation, and various neurodegenerative conditions.

The inclusion criteria were restricted to studies involving patients diagnosed with Parkinson's disease, Multiple Sclerosis, Huntington's disease, or various forms of dementia. Interventions of interest were required to involve structured dance genres, including Argentine Tango, ballroom, Irish set dancing, and contemporary dance, that explicitly incorporated rhythmic auditory stimulation (RAS) or external temporal cueing. Studies were excluded if they focused solely on general physical exercise without a rhythmic component or lacked objective measures of gait kinematics, postural stability, or functional mobility.

From the initial search, a total of 18 key papers were selected for detailed analysis based on their methodological rigor and the specificity of the rhythmic protocols employed. Data extraction focused on synthesizing findings related to gait speed, stride length, and balance, as well as neuroplastic changes such as the recruitment of the cerebello-thalamo-cortical network. The evidence was categorized by disorder to identify the differential impact of specific dance genres on clinical symptoms and to discuss the feasibility of these interventions as an adjunct to standard neurological care.

Results

The synthesis of reviewed literature reveals that rhythmic-cued dance interventions are effective across a broad spectrum of neurodegenerative conditions, with specific clinical outcomes varying according to the underlying pathophysiology of each disorder.

Parkinson's Disease (PD)

The largest body of evidence focuses on Parkinson's disease, where rhythmic-cued dance, particularly Argentine Tango and Irish set dancing, demonstrates significant efficacy in addressing axial motor symptoms [17, 18]. Studies indicate that external auditory cues may act as a "bypass" for the dysfunctional basal ganglia, facilitating smoother movement initiation [6, 10]. Most trials report substantial improvements in gait speed, stride length, and a reduction in Freezing of Gait (FOG) episodes [8, 12, 16]. Longitudinal data indicate that these motor gains are sustainable, with consistent participation leading to significant improvements in the Unified Parkinson's Disease Rating Scale (UPDRS III) [18].

Multiple Sclerosis (MS)

In patients with Multiple Sclerosis, the primary focus of rhythmic interventions is on postural stability and balance confidence [5, 7]. Findings suggest that structured ballroom dance and targeted ballet programs mitigate ataxia and improve functional reach [7, 9]. Rhythmic auditory stimulation used during walking tasks has been shown to improve cadence and stride symmetry [15], which are often compromised by demyelination-induced sensory-motor delays. Notably, these interventions also appear to address MS-related fatigue, overcoming common obstacles encountered in standard physical therapy [5, 9].

Dementia and Alzheimer's Disease

For populations with cognitive impairment, the review highlights the "dual-task" nature of dance. Interventions such as tango-therapy and aerobic dance require simultaneous motor coordination and cognitive processing (e.g., remembering steps, navigating social space) [3, 4]. Results suggest that rhythmic-cued dance may slow the decline in gait speed [4] (a key predictor of mortality in dementia), while simultaneously enhancing executive functions and mood [3, 13]. Unlike rote physical activity, the emotional salience of music in dance therapy appears to promote higher engagement in patients with advanced cognitive decline [1].

Huntington's Disease (HD)

Emerging research on Huntington's disease, though more limited, suggests that contemporary dance and rhythmic cueing can improve body representation and motor control [14]. The rhythmic structure helps patients manage choreatic movements by providing a predictable temporal framework, potentially leading to better postural stability and reduced fall risk in the early to middle stages of the disease [11, 14]. A detailed synthesis of the clinical outcomes and the corresponding neurobiological mechanisms for each investigated disorder is summarized in Table 1.

Table 1. Clinical outcomes and neurobiological correlates of rhythmic-cued dance interventions in neurodegenerative disorders (Source: Own elaboration based on reviewed literature)

Disorder	Mobility Outcomes	Neurobiological Correlates
Parkinson's Disease (PD)	Significantly reduced freezing of gait, improved stride length	Bypass of dysfunctional basal ganglia; recruitment of cerebello-thalamo-cortical pathways
Multiple Sclerosis (MS)	Enhanced balance confidence, increased walking endurance, and improved stride symmetry	Improved sensorimotor integration and compensation for demyelination-related delays
Dementia/MCI	Preservation of gait speed, improved executive function, and reduced functional decline	Frontal lobe stimulation and high cognitive demand through dual-tasking requirements
Huntington's (HD)	Improvements in body representation, motor coordination, and postural control	Temporal anchoring of motor output; stabilization of choreatic movement patterns

Discussion

Mechanisms of Auditory-Motor Synchronization and Neuroplasticity

The clinical efficacy of rhythmic-cued dance stems from the brain's innate capacity for auditory-motor synchronization [1, 8, 16]. Recent findings confirm that rhythmic auditory stimulation (RAS) acts as an external pacemaker, effectively compensating for the internal timing deficits characteristic of basal ganglia dysfunction [10, 16]. In Parkinson's disease, this predictable temporal structure provides a 'scaffold' for the motor cortex, facilitating movement initiation [8, 12].

This review suggests that such external cueing may bypass the impaired nigrostriatal pathways by recruiting the cerebello-thalamo-cortical network [6]. Neuroimaging evidence from systematic reviews (e.g., Blasi et al., 2025 [1]) highlights that long-term engagement in dance is associated with structural neuroplasticity [1], including increased white matter integrity in the superior longitudinal fasciculus and enhanced functional connectivity between the auditory and premotor regions [1, 6].

The concept of "groove" appears to be a critical mediator of clinical outcomes [8]. By engaging the dopaminergic reward system, dance therapy provides an emotional salience often absent in traditional physiotherapy, thereby enhancing patient adherence and potentially facilitating motor learning through increased arousal [1, 2, 8]. The "groove" factor, as discussed in recent cognitive models, suggests that the pleasure derived from rhythmic synchronization may lower the perceived exertion of complex motor tasks, allowing patients with Multiple Sclerosis or PD to perform at higher intensities for longer durations [9, 12].

Comparative Efficacy Across Disorders

A significant theme emerging from this review is the differential impact of dance genres on specific clinical symptoms. For instance, Argentine Tango appears uniquely suited for Parkinson's disease due to its emphasis on backward walking, spontaneous weight shifting, and rhythmic initiation, all of which directly target the mechanisms underlying Freezing of Gait (FOG) [12, 17]. In contrast, ballet and contemporary dance interventions for Multiple Sclerosis focus more heavily on postural alignment and core stability, addressing the cerebellar ataxia and sensory-motor delays prevalent in this population [5, 7].

In the context of cognitive decline and dementia, the "dual-task" requirement of dance emerges as its most potent feature [3, 4, 13]. While standard physical exercise improves cardiovascular health, dance requires the simultaneous processing of spatial navigation, social cues, and sequence memorization [3, 4]. Most studies indicate that this high cognitive load promotes "cognitive reserve," potentially slowing the rate of functional decline [1, 3]. Studies consistently show that for patients with Alzheimer's disease, the non-verbal communication inherent in partnered dance offers a psychosocial benefit, reducing social isolation while maintaining gait speed [4, 13] – a vital biomarker of overall health in geriatric populations [4].

The Role of Technology and Modern Delivery Models

Recent advancements in 2024 and 2025 have validated hybrid rehabilitation models [2]. The effectiveness of telecoaching and music-based interventions delivered via digital platforms suggests that the benefits of dance therapy can be extended beyond the clinical setting [2]. This is particularly relevant for patients with advanced neurodegeneration or those living in remote areas [2]. However, as noted in recent narrative reviews (e.g., Leale et al., 2025 [2]), while digital interventions increase accessibility, they may lack the full social and tactile feedback provided by in-person partnered dancing [2, 8]. The integration of wearable sensors to provide real-time rhythmic cueing represents a promising frontier for individualized "dosage" of dance therapy [1, 2, 10].

Limitations of Current Evidence

Despite the promising findings across the eighteen analyzed studies, several methodological limitations necessitate a cautious interpretation of the results. Significant clinical heterogeneity remains a challenge, as many pilot studies (2015-2019) utilized small sample sizes, limiting generalizability of the findings to broader patient populations [11, 13, 17, 18]. The lack of standardization in dance "dosage" – including the frequency, duration, and intensity of sessions, makes it challenging to establish a definitive therapeutic protocol [5, 13]. While some researchers advocate for intensive short-term programs, others suggest that long-term, low-frequency interventions may be more sustainable for individuals with progressive neurodegeneration [1].

Another critical limitation is the variability in control groups. In many cases, dance interventions are compared to "standard care" or passive control groups, which may lead to an overestimation of the specific effects of rhythmic cueing as opposed to the general benefits of social interaction and physical activity [11]. Additionally, the majority of the literature focuses on the "on" state in Parkinson's disease, leaving a gap in our understanding of how rhythmic-cued dance may benefit patients during "off" periods or in more advanced stages of the disease where mobility is severely restricted [10, 16]. Lastly, the sustainability of the motor gains remains under-researched; few studies include long-term follow-up assessments to determine whether the improvements in gait kinematics persist after the cessation of the intervention [1, 17, 18].

Future Directions in Research and Clinical Practice

To move the field toward standard clinical integration, future research must prioritize large-scale, multi-center randomized controlled trials with more rigorous standardization of dance protocols [7, 11]. There is a clear need for studies that directly compare different dance genres to identify which rhythmic structures are most beneficial for specific symptoms [5], such as postural sway in MS versus freezing of gait in PD. Incorporating advanced neuroimaging and biomechanical sensors as secondary outcomes could provide more objective data on the longitudinal neuroplastic changes and "real-world" gait stability outside the laboratory setting [1, 2, 6].

The integration of technology, as suggested by the most recent 2025 reviews [1, 2], represents a vital frontier. Further research should focus on hybrid models that combine in-person group dancing with home-based telecoaching [2] and wearable rhythmic cueing devices [1, 10]. This approach could not only improve accessibility for patients with limited mobility but also allow for a more personalized "rhythmic prescription" based on an individual's specific gait cadence [10, 15]. Furthermore, investigating the impact of dance on non-motor symptoms, such as sleep quality, fatigue, and autonomic dysfunction, could broaden the clinical utility of this intervention [1, 5, 9].

Future studies should additionally investigate the psychological role of 'groove' to design more inclusive programs and maintain long-term adherence [8, 9, 13]. Ultimately, the goal of future research should be to define the optimal parameters for rhythmic-cued dance to be prescribed as a safe, effective, and evidence-based adjunct to standard neurological care pathways [1, 11].

Conclusions

The importance of addressing gait and mobility deficits in neurodegenerative disorders remains paramount, as these impairments are direct predictors of functional independence and overall quality of life. This review suggests that rhythmic-cued dance interventions represent a safe, effective, and highly engaging adjunct to standard pharmacological and rehabilitative care. By leveraging auditory-motor synchronization and engaging alternative neural pathways such as the cerebello-thalamo-cortical network, dance therapy appears to offer multidimensional benefits that transcend those of conventional physical exercise. Most studies indicate that structured programs, particularly those incorporating rhythmic auditory stimulation (RAS), can lead to significant improvements in gait kinematics, balance, and postural stability across conditions such as Parkinson's disease, Multiple Sclerosis, and dementia.

However, the field remains characterized by significant clinical and methodological heterogeneity, which limits the ability to establish standardized "dosage" and intervention protocols. Further prospective studies are warranted to refine strategies and improve the long-term sustainability of motor gains. Future research should focus on large-scale randomized controlled trials and the integration of digital monitoring technologies to provide objective, real-world data. Current evidence supports the integration of rhythmic-cued dance into clinical pathways as a potent adjunct for maintaining mobility. While not a replacement for traditional physical therapy, it represents a vital, evidence-based tool for addressing the complex needs of patients with neurodegeneration.

Author's contribution:

Conceptualization: Oliwia Zynek, Alicja Palus

Methodology: Filip Kamyszek, Paula Kaczmarczyk

Formal analysis: Kornel Pawlak, Marcin Stępiński, Tomasz Arkuszyński

Investigation: Julia Dobrowolska, Paula Kaczmarczyk

Resources: Marta Krężolek, Mateusz Balicki, Julia Dobrowolska

Writing – Original Draft: Oliwia Zynek, Marta Krężolek

Writing – Review & Editing: Mateusz Balicki, Marcin Stępiński

Supervision: Oliwia Zynek, Alicja Palus

All authors have read and agreed with the published version of the manuscript.

Funding Statement: Study did not receive special funding.

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Declaration on the Use of AI: In preparing this manuscript, the authors used ChatGPT for language improvement and enhancing readability. Following the use of this tool, all content was reviewed and edited by the authors, who take full responsibility for the accuracy and integrity of the final version.

REFERENCES

1. Blasi, V., Rapisarda, L., Cacciatore, D. M., Palumbo, E., Di Tella, S., Borgnis, F., & Baglio, F. (2025). Structural and functional neuroplasticity in music and dance-based rehabilitation: A systematic review. *Journal of Neurology*, 272(5), 329. <https://doi.org/10.1007/s00415-025-13048-6>
2. Leale, I., Vinciguerra, C., Di Stefano, V., Brighina, F., & Battaglia, G. (2025). Effectiveness of telecoaching and music therapy in neurological disorders: A narrative review and proposal for a new interventional approach. *Healthcare*, 13(7), 826. <https://doi.org/10.3390/healthcare13070826>
3. Tao, D., Awan-Scully, R., Ash, G. I., Pei, Z., Gu, Y., Gao, Y., Cole, A., & Baker, J. S. (2023). The effectiveness of dance movement interventions for older adults with mild cognitive impairment, Alzheimer's disease, and dementia: A systematic scoping review and meta-analysis. *Ageing Research Reviews*, 92, 102120. <https://doi.org/10.1016/j.arr.2023.102120>
4. Bracco, L., Pinto-Carral, A., Hillaert, L., & Mourey, F. (2023). Tango-therapy vs physical exercise in older people with dementia: A randomized controlled trial. *BMC Geriatrics*, 23(1), 693. <https://doi.org/10.1186/s12877-023-04342-x>
5. Davis, E., Webster, A., Whiteside, B., & Paul, L. (2023). Dance for multiple sclerosis: A systematic review. *International Journal of MS Care*, 25(4), 176–185. <https://doi.org/10.7224/1537-2073.2022-088>
6. Meulenberg, C. J. W., Rehfeld, K., Jovanović, S., & Marusic, U. (2023). Unleashing the potential of dance: A neuroplasticity-based approach bridging from older adults to Parkinson's disease patients. *Frontiers in Aging Neuroscience*, 15, 1188855. <https://doi.org/10.3389/fnagi.2023.1188855>
7. Sonke, J., Langley, J., Whiteside, B., Gyang, T., Borgert, B., Mason, K., Johnson, E., Riley, D., Cassidy, C., Hanna, G., & Sollero, C. (2021). Movement for multiple sclerosis: A multi-site partnership for practice and research. *Arts & Health*, 13(2), 204–212. <https://doi.org/10.1080/17533015.2020.1852435>
8. Krottinger, A., & Loui, P. (2021). Rhythm and groove as cognitive mechanisms of dance intervention in Parkinson's disease. *PLOS ONE*, 16(5), e0249933. <https://doi.org/10.1371/journal.pone.0249933>
9. Ng, A., Bunyan, S., Suh, J., Huenink, P., Gregory, T., Gambon, S., & Miller, D. (2020). Ballroom dance for persons with multiple sclerosis: A pilot feasibility study. *Disability and Rehabilitation*, 42(8), 1115–1121. <https://doi.org/10.1080/09638288.2018.1516817>
10. Devlin, K., Alshaikh, J. T., & Pantelyat, A. (2019). Music therapy and music-based interventions for movement disorders. *Current Neurology and Neuroscience Reports*, 19(11), 83. <https://doi.org/10.1007/s11910-019-1005-0>
11. Schwartz, A. E., van Walsem, M. R., Brean, A., & Frich, J. C. (2019). Therapeutic use of music, dance, and rhythmic auditory cueing for patients with Huntington's disease: A systematic review. *Journal of Huntington's Disease*, 8(4), 393–420. <https://doi.org/10.3233/JHD-190370>
12. Pereira, A. P. S., Marinho, V., Gupta, D., Magalhães, F., Ayres, C., & Teixeira, S. (2019). Music therapy and dance as gait rehabilitation in patients with Parkinson disease: A review of evidence. *Journal of Geriatric Psychiatry and Neurology*, 32(1), 49–56. <https://doi.org/10.1177/0891988718819858>
13. Ruiz-Muelle, A., & López-Rodríguez, M. M. (2019). Dance for people with Alzheimer's disease: A systematic review. *Current Alzheimer Research*, 16(10), 919–933. <https://doi.org/10.2174/1567205016666190725151614>
14. Trinkler, I., Chéhere, P., Salgues, J., Monin, M. L., Tezenas du Montcel, S., Khani, S., Gargiulo, M., & Durr, A. (2019). Contemporary dance practice improves motor function and body representation in Huntington's disease: A pilot study. *Journal of Huntington's Disease*, 8(1), 97–110. <https://doi.org/10.3233/JHD-180315>
15. Shahraki, M., Sohrabi, M., Taheri Torbati, H. R., Nikkhah, K., & NaeimiKia, M. (2017). Effect of rhythmic auditory stimulation on gait kinematic parameters of patients with multiple sclerosis. *Journal of Medicine and Life*, 10(1), 33–37.
16. Ashoori, A., Eagleman, D. M., & Jankovic, J. (2015). Effects of auditory rhythm and music on gait disturbances in Parkinson's disease. *Frontiers in Neurology*, 6, 234. <https://doi.org/10.3389/fneur.2015.00234>
17. Blandy, L. M., Beevers, W. A., Fitzmaurice, K., & Morris, M. E. (2015). Therapeutic Argentine tango dancing for people with mild Parkinson's disease: A feasibility study. *Frontiers in Neurology*, 6, 122. <https://doi.org/10.3389/fneur.2015.00122>
18. Hashimoto, H., Takabatake, S., Miyaguchi, H., Nakanishi, H., & Naitou, Y. (2015). Effects of dance on motor functions, cognitive functions, and mental symptoms of Parkinson's disease: A quasi-randomized pilot trial. *Complementary Therapies in Medicine*, 23(2), 210–219. <https://doi.org/10.1016/j.ctim.2015.01.010>