In Adults With Parkinson's Disease, How Does Dance-Based Therapy, Compared to Walking Mobility Activities Within the Home, Impact Balance?

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Introduction

Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by bradykinesia, muscular rigidity, gait disturbances, and postural instability, affecting approximately 1.1 million people worldwide[1]. These impairments increase fall risk and contribute to functional decline, interfering with essential occupations such as bathing, dressing, meal preparation, household management, and community mobility[2]. Occupational therapy (OT) addresses these limitations by targeting balance, mobility, task sequencing, motor learning, and fall prevention through interventions such as walking-based mobility training, strength exercises, and functional task practice[2]. Emerging evidence also highlights dance-based interventions, which incorporate rhythm, coordination, cognitive engagement, and social participation, elements shown to support balance in individuals with PD[3,4]. Given the increased use of dance in rehabilitation, the purpose of this literature search is to compare dance-based therapy to walking-based mobility activities to determine which is more effective for improving balance in adults with Parkinson's disease. Therefore, the research question guiding this review is: "In adults with Parkinson's disease, how does dance-based therapy, compared to walking-based mobility activities within the home, impact balance?"

Process /Methodology

Research Databased:

- EBSCOhost, CINHAL Complete, Monmouth University Library database

Search terms:

- "65 years and older," "older adults," "elderly," "seniors," "geriatric," "Parkinson's disease," "PD," "parkinsonism," "dance-based therapy," "dance/movement therapy," "DMT," "dance," "rhythmic dance," "folk dance," "ballroom dance," "walking," "mobility activities," "balance exercises," "balance training," "balance program," "balance," "postural stability," "falls," "activities of daily living (ADLs)," "quality of life."

Inclusion criteria:

- Articles within 20 years, peer-reviewed articles, RCTs, studies involving adults diagnosed with Parkinson's disease, interventions focused on dance-based therapy or structured movement-based dance programs, outcomes related to balance, mobility, or functional performance

Exclusion criteria:

- Articles outside of 20 years, systematic review, meta-analysis, cut off age below 30 years old

Figure 1. Older Adults with Parkinson's participating in Irish Set Dancing[16]

Figure 2. Older adults with Parkinson's participating in ballroom dancing[17]

Table 1. Articles used for research

Article	Assessments	Intervention	Comparison	P-Value	Significance
Eyigor et al. (2009)	BBS	Turkish Folkloric Dance	No-exercise control	$p < .05$	Significant
Hofgaard et al. (2019)	BBS FAB	Faroese Chain Dance	Treatment as Usual	$p < .05$ $p < .05$	Significant
Jehu et al. (2025)	TUG 360 turn Tandem stance	Tango	High vs. Low Social Support Groups	$p < .05$ $p < .05$ $p < .05$	Significant
Lee et al. (2018)	BBS	Turo (Qi Dance)	Wait-list Control	$p = .051$	Not Significant
Mehta et al. (2024)	Freezing of Gait	Garba Dance	PT & Control	$p < .001$	Significant
Merom et al. (2013)	PPA CSRT SPPB	Ballroom/Folk Dance	No-intervention Control	N/A	N/A
Mortatelli et al. (2021)	UPDRSI UPDRSII	Binary & Quaternary Rhythm Dance	Binary vs. Quaternary	$p = .106$ $p = .061$	Not significant
Rios Romenets et al. (2015)	BBS Gait Test	Tango	Control	$p < .05$	Significant
Solla et al. (2019)	BBS TUG	Sardinian Ballu Sardu Folk Dance	Treatment as Usual	$p < .001$ $p < .001$	Significant
Volpe et al. (2013)	BBS TUG	Irish Set Dancing	Physiotherapy	$p = .051$ $p = .007$	Not Significant Significant

Findings/Results

Across all the ten articles, danced based therapy consistently improved balance, gait performance, mobility, and motor skills in adults with Parkinsons Disease. Dance based therapy programs are safe, adherable, and nontraditional.

Balance & Mobility

- Significant increases in balance were reported through assessments such as the BBS, FAB, TUG, PPA, CSRT, and SPPB[3-15].
- Dance based therapy emphasized rhythmic stepping, weight shifting and coordinated movement patterns, this increased stability, and gait speed. These interventions outperformed comparison interventions such as standard treatments, physical therapy and control groups[10,15].
- Studies directly comparing dance-based interventions to physical therapy or standard exercise programs showed clear statistical advantages for dance in balance and gait[5-6,8,10,13-14].

Motor Skills

- Studies found meaningful improvements in motor performance on rating scales such as UPDRS II/III, particularly in studies comparing rhythmic movement to standard movement[12].

Psychosocial

- Studies found improvements in mood, social interaction, cognitive function and quality of life, suggesting motivational components to dance based treatment[5-6,8,13-14].

Implications for Occupational Therapy

Occupational therapy practitioners focus on supporting independence, increasing mobility, and promoting engagement through meaningful activities. Participation in structured dance programs can give a person with Parkinson's disease a meaningful reason to engage in a social setting while working on balance, motor and cognitive skills[5-6,8,10,13-14].

An occupational therapy session that incorporates dance-based therapy offers great benefits for a client with PD by helping to improve balance and postural stability. Dance provides a holistic approach that not only supports physical function but also encourages social participation and enhances overall quality of life[5-6,8,13-14].

Recommendations for Future Research

Inclusion of More Randomized Control Trials in Parkinson's Disease:

- Several studies were single/pilot studies/meta-analysis reviews[11].
- Larger selections of RCTs → increase statistically accurate effects of dance and movement therapy.

Standardization of the Dance/Movement Therapy Options:

- Dance types throughout the studies varied greatly (improvisational DMT, Turo Qi, Garba, Sardinian folk dances, and Irish set dancing)[9-10,14-15].
- Variability = difficult to determine which aspects are responsible for improvements.
- Consider standardizing important components (I.E. tempo, session length, and move frequency)

Inclusion of Long-Term Follow-Up:

- Most programs = either 6 weeks or 8-12 weeks.
- Long-term follow up = help determine sustainability/durability of intervention
- Knowledge on whether ongoing intervention needed for patient maintenance

Conclusions

Dance-based therapy is a meaningful intervention for improving balance, mobility, motor performance and psychosocial being for adults suffering with Parkinsons. Occupational based dance programs offering rhythmic cueing, dynamic balance, social engagement and more, all contributing to long term participation. Dance does not only address physical impairments but also supports psychosocial beings too, aligning with the holistic side of OT implication. This results in structured dance-based interventions that can integrated into homebased, and community programs[5-6,8,10,13-14]. Future research may include standardizing dance throughout OT practice.

References