



The Influence of a Group Dance Program on Social Engagement in Individuals with Parkinson's Disease

Baleigh Nelson, OTS; Jason Vice, PhD, OTR/L, SCLV

Department of Occupational Therapy | University of Alabama at Birmingham

Teri Weksler | UAB Arts in Medicine

Introduction

Clinical depressive disturbances occur in 40-50% of individuals with Parkinson's disease (PD)¹. Individuals with PD experience postural instability, gait dysfunction, and poor coordination as the disease progresses.² As a result of these physical limitations, individuals with PD are more likely to be socially isolated in their community which can increase likelihood of experiencing depression.³ Dance for PD was investigated in a recent study and it was found to improve psychological symptoms, quality of life (QoL), and select cognitive skills. Depression and anxiety were significantly reduced when it came to psychological symptoms and activities of daily living. Emotional well-being and cognition also improved due to the improvement of QoL.²

The purpose of this research project is to investigate the influence of a group dance program on non-motor symptoms such as social engagement and overall QoL in individuals with PD and potentially expand intervention options to support this population.

This research project was conducted in collaboration with UAB Arts in Medicine (AIM) and their partnership with The Dance Foundation.

Methods

- This research project utilized a mixed-methods methodology consisting of the World Health Organization Quality of Life: Brief Version (WHOQOL-BREF) assessment and an investigator-created survey, focused on social engagement.
- The WHOQOL-BREF was administered prior to beginning and after completing the six-week dance program.
- The investigator-created survey was administered at the completion of the program.
- Participants were recruited through UAB AIM's Movement for Parkinson's Group Dance Class. A total of three participants completed the research study (n=3).
- Participants were encouraged to attend 2 one-hour group dance classes per week for a total of six weeks.

Results

Demographics of Participants

- 3 females, M = 70.66 years
- 100% participants had a confirmed diagnosis of PD
- M = 8 years since receiving PD diagnosis

Dance Class Attendance

- P1 attended 8/12 dance sessions (66%); P2 attended 8/12 dance sessions (66%); P3 attended 6/12 dance sessions (50%)

WHOQOL-BREF Scores

Table 1: WHOQOL-BREF Calculation Results

	Overall	Domain 1	Domain 2	Domain 3	Domain 4
Pre-Test Scores	81.7±16.2	10.9±1.1	12.2±3.3	11.1±5.5	15.5±2.3
Post-Test Scores	84.3±11.2	11.6±1.4	12±1.3	12±5.8	16±1.8
p-Value	0.2837	0.0279	0.5633	0.0918	0.1127

Note: (mean ± S.D.), Domain 1 = Physical Health; Domain 2 = Psychological Health; Domain 3 = Social Relationships; Domain 4 = Environment
*p < 0.05

Results continued

Investigator-Created Social Engagement Survey

Figure 1: Frequency of Responses for Social Engagement Survey

Question	Frequency Responses (n=3)	Question	Frequency Responses (n=3)
1. Did your self-esteem increase as a result of participating in the program?	Yes (n=3): 100% No (n=0): 0.00%	6. Do you feel that your support system has increased as a result of participating in this program?	Yes (n=1): 33.33% No (n=2): 66.67%
2. Do you feel more confident approaching or initiating interaction with others as a result of this program?	Yes (n=1): 33.33% No (n=2): 66.67%	7. Do you feel more confident going out into community settings (e.g. neighborhood, workplace, retail stores, church, etc.) as a result of participating in this program?	Yes (n=1): 33.33% No (n=2): 66.67%
3. Do you feel more confident in making new friends as a result of this program?	Yes (n=1): 33.33% No (n=2): 66.67%	8. Do you feel more comfortable engaging and interacting with other people in group settings as a result of participating in this program?	Yes (n=1): 33.33% No (n=2): 66.67%
4. Did you develop strong relationships with anyone in this program?	Yes (n=1): 33.33% No (n=2): 66.67%	9. Do you feel more confident in your abilities to express and read emotions via facial expression or body language as a result of participating in this program?	Yes (n=1): 33.33% No (n=2): 66.67%
5. Is your relationships with your family members and/or caregiver stronger as a result of participating in this program?	Yes (n=1): 33.33% No (n=2): 66.67%	10. Do you feel less socially isolated as a result of participating in this program?	Yes (n=3): 100% No (n=0): 0.00%

Social Engagement Survey Thematic Analysis

A total of five overarching themes were revealed based on the participant's open-ended responses:

- Increase in Positive Emotion and Social Activity
- Personality and Opportunity
- No Outside Socialization
- Uncertainty in the Community
- Decrease in Social Isolation

Discussion

Quality of Life

- The results of the WHOQOL-BREF assessment demonstrated that participating in a 6-week group dance program produced a statistically significant difference from pre-test to post-test scores in QoL Domain 1, Physical Health. The facets incorporated within this domain include activities of daily living, dependence of medical substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest, and work capacity.⁴

- Although not significantly different, participant's average Overall QoL scores increased indicating that a group dance program had a positive impact on QoL for individual's with PD.

Social Engagement

- Participant's reported an increase in positive emotions (e.g. enjoyment, mood, motivation) and an increase in self-esteem which can lead to an increase in self-confidence to continue involvement in meaningful activities.

- An individual's confidence to approach social interactions and/or form new friendships is influenced by their personality and the opportunities presented to them. A group dance program should incorporate elements such as a dedicated socialization hour into the session.

- The expected increase in personal relationships and support systems due to participating in a group dance program was limited due to connections formed being confined to the dance program.

- Despite QoL improvements shown in Domain 1 (Physical Health), individual's with PD still harbor uncertainty about venturing into community settings alone.

- A group dance program targeted for individuals with PD has a positive impact on social involvement and helps combat feelings of social isolation and depression.

Discussion continued

Implications for OT Practice

- Occupational therapy practitioners play a pivotal role in addressing the occupational performance and participation needs of individuals with PD. Occupational therapy practitioners should incorporate a group dance program into their clinical management for PD as it has been found to increase QoL, self-esteem, and reduce social isolation.

Limitations

- Small sample size (n=3)
- Gender-specific representation raised considerations about the generalizability of findings to the broader PD population
- Dance class attendance patterns

Future Research Suggestions

- Future research on dance for PD should strive to address these limitations. Additionally, future research should incorporate a designated socialization hour within the dance program to maximize the social benefits. In order to garner more in-depth responses from participants, future research should conduct in-person interviews.

Conclusion

While this research contributed significantly to the understanding of the impact of a group dance program for individual's with PD, it also highlighted the need for further exploration to deepen the understanding of their effects on non-motor symptoms.

In essence, this study emphasized the multifaceted positive impact of the group dance program on individuals with PD, showcasing its potential as a beneficial and holistic intervention within the occupational therapy profession.

References

- Kalyani, H. H. N., Sullivan, K. A., Moyle, G., Brauer, S., Jeffrey, E. R., & Kerr, G. K. (2019). Impacts of dance on cognition, psychological symptoms and quality of life in Parkinson's disease. *NeuroRehabilitation*, 45(2), 273–283. <https://doi.org/10.3233/NRE-192788>
- Marsh, L. (2013). Depression and Parkinson's Disease: Current Knowledge. *Current Neurology and Neuroscience Reports*, 13(12), 409. <https://doi.org/10.1007/s11910-013-0409-5>
- Takahashi, K., Nguyen, T. M. T., Poudel, K. C., Sakisaka, K., Jimba, M., & Yasuoka, J. (2011). Social capital and life satisfaction: a cross-sectional study on persons with musculoskeletal impairments in Hanoi, Vietnam. *BMC Public Health*, 11, 206. <https://doi.org/10.1186/1471-2458-11-206>
- World Health Organization. Division of Mental Health. (1996). WHOQOL-BREF: introduction, administration, scoring and generic version of the assessment: field trial version, December 1996. World Health Organization. <https://iris.who.int/handle/10665/63529>

Acknowledgement & Contact Information

A special thank you to my faculty mentor, Jason Vice, PhD, OTR/L, SCLV for his time, support, and guidance throughout this project. Thank you to my capstone mentor, Teri Weksler for welcoming me with open arms, her expertise in Dance for PD, and sharing her passion for dance with me. Thank you to UAB Arts in Medicine and The Dance Foundation for making this research project possible.

Baleigh Nelson, OTS
bnelson2@uab.edu