



Development of a Paddling Program for Individuals with Parkinson's Disease

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Project Overview

Areas of Study: (1) Program and Policy Development (2) Clinical Practice (3) Advocacy

Population: Health & Wellness, Rehabilitation & Disability

Project Site: Siouxland Center for Active Generations

Description: The capstone project focuses on the expansion of pre-existing Parkinson Disease (PD) programming through the creation of a ground kayak paddling program at a community senior center. Development of such programming integrates current research and preexisting PD intervention strategies to further promote social and leisure participation, manage symptoms, and improve overall quality of life.



Project Completion and Outcomes

Outcome Measure #1: Develop an in-depth base of knowledge in exercise-based programming for individuals with PD through completion of Rock Steady Boxing (RSB) coaching certification.

Outcome Measure #2: Demonstrate advanced knowledge of clinical PD-focused interventions through completion of Lee Silverman Voice Treatment BIG (LSVT BIG) certification.

Outcome Measure #3: Continue to develop competence in recreation-based intervention through the creation of sustainable resources for a ground kayak paddling program within a facility.

Outcome Measure #4: Advocate for occupational therapy's (OT) role in the expansion of clinical and community-based outdoor recreation opportunities to maximize therapeutic outcomes as evidenced by the completion of a manuscript specific to disability special interests.

Related Learning Objectives: Gain competency in RSB program components, advocate for OT's role in the promotion of recreation-based interventions, create a ground kayak-paddling program guide, and enhance knowledge and generalizability across client populations through the creation of a client-centered case study surrounding outdoor activity participation.

Mission and Vision Statements

Project Mission: To encourage the promotion of health management and social participation through the creation of a ground kayak paddling program for individuals with Parkinson's Disease.

Vision Statement: To expand opportunities for inclusive, recreation-based programming for individuals with Parkinson's Disease in order to manage symptoms and maintain overall quality of life.

Needs Assessment | Literature Review

Needs Assessment: To assess the need for my capstone project, I reviewed evidence-based literature, collaborated with OTs, outdoor recreation professionals, and my expert mentor. These efforts revealed the need to further investigate the implementation of outdoor recreation-based community programming to enhance therapeutic outcomes across the lifespan.

Literature Review:

- The utilization of an outdoor recreation-based medium using a kayak and paddling exercises is shown to improve physical and psychosocial well-being as this approach promotes occupational engagement and identity development, further improving emotional well-being and non-motor symptoms (Frances, 2004).
- Ground kayak paddling exercises yield significant improvements in motor-related symptoms such as axial rigidity, postural balance muscle performance, and cognitive function (Shujaat et al., 2014; Choi & Lee, 2018).
- While common non-motor symptoms such as depression are often treated with pharmaceutical intervention, paddling is unique in that participation in a paddling-based exercises program can improve many non-motor symptoms as well. This is a vital benefit as unmanaged non-motor symptoms often result in emotional distress, which can further exacerbate preexisting cognitive deficits, motor function, and overall quality of life (Marsh, 2013).

Deliverables

- Rock Steady Boxing coaching and LSVT BIG certifications
- Evidence of facilitation of five RSB classes
- Presentation to OT students regarding clinical and recreation-based interventions for PD
- Completed kayak program guide and compilation of sustainable resources
- Abstract of scholarly work advocating for community-based outdoor recreation
- Design of an occupation-based case study

Future Implications

Implications within the Field of OT:

- The use of an outdoor recreation-based medium and kayak paddling exercises yielded improvements in physical function and emotional well-being in individuals with PD.
- Illustrates the need for accessible community programming to enhance therapeutic outcomes.

Implications for My Career:

- Gained hands-on experience with common age-related impairments and diagnoses.
- Gained professional certifications that I can utilize as a clinician.



Siouxland Center
for Active Generations

Curricular Threads

Christ: "The sea is His, for He made it, and His hands formed the dry land" Psalm 95:5

Scholarship: Application of clinical knowledge and production of scholarly writing.

Service: Development of sustainable programming in my local community.

Key References *Full list of reference available upon request*

Choi, W., & Lee, S. (2018). Ground kayak paddling exercise improves postural balance, muscle performance, and cognitive function in older adults with mild cognitive impairment: A randomized controlled trial. *Medical Science Monitor*, 24, 3909–3915. <https://doi.org/10.12659/msm.908248>

Frances, K. (2006). Outdoor recreation as an occupation to improve quality of life for people with enduring mental health problems. *British Journal of Occupational Therapy*, 69(4), 182–186. <https://doi.org/10.1177/030802260606900406>

Marsh, L. (2013). Depression and Parkinson's disease: Current knowledge. *Current Neurology and Neuroscience Reports*, 13(12). <https://doi.org/10.1007/s11910-013-0409-5>

Shujaat, F., Soomro, N., & Khan, M. (2014). The effectiveness of kayaking exercises as compared to general mobility exercises in reducing axial rigidity and improve bed mobility in Parkinson's patients. *Pakistan Journal of Medical Sciences*, 30(5), 1094–1098. <https://doi.org/10.12669/pjms.305.5231>