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Promoting Sleep Hygiene for Individuals Diagnosed with Parkinson's Disease: Occupational Therapy's Distinct Role

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BACKGROUND & PURPOSE

Parkinson's disease (PD) is the second most common neurodegenerative disorder in the United States, with approximately one million individuals diagnosed (DeMaagd et al., 2015).

- PD has motor (movement) and non-motor (non-movement) symptoms that negatively impact overall quality of life.
- Sleep disorders are considered a non-motor symptom, impacting up to 90% (Chaudhuri et al., 2002).
 - Sleep deprivation may lead to worsened health outcomes, daily participation, and quality of life.

The profession of occupational therapy (OT) understands sleep physiology and sleep disorders and can use this knowledge to evaluate and address sleep performance issues that hinder occupational performance (American Occupational Therapy Association, 2017).

The purpose of this project was to:

1. Explore ways in which sleep can be improved for those living with PD within Sioux Falls, South Dakota.
2. Equip current practitioners with the necessary resources and tools to address sleep for their clients both with and without neurological disorders.
3. Advocate for OT's role in sleep management for individuals across the lifespan.
4. Develop the foundation for a sleep hygiene program or class series specific to adults with PD.

THEORETICAL FOUNDATION

This capstone experience was guided by the Person-Environment-Occupation (PEO) model of practice, where occupational performance is determined by the interaction between the person, their environment, and the occupation (Law, 1996).

PERSON

Worked to implement better sleep hygiene practices into existing roles by:

- Providing a sleep hygiene presentation at quarterly series.
- Delivery of sleep hygiene website and educational information specific to sleep (handouts).
- Providing recommendations during daily interaction within clients in clinic and at PD exercise group.

ENVIRONMENT

- Provided environmental strategies to improve sleep outcomes (dark environment, cooler sleep temperature, etc.).
- Identified specific client factors that potentially impede sleep quality (technology use in bed, noisy environment, excess light).

OCCUPATION

- Worked to implement specific behavioral strategies that support sleep quality (participation in exercise, exposure to sunlight, schedule consistency).
- Eliminated behaviors impeding sleep performance (excess caffeine consumption, consuming liquids before bed, excess daytime napping).

METHODS

Promoted sleep hygiene for those with PD and gained advanced clinical skills/knowledge specific to adult neurological disorders through engagement with stakeholders in the clinic, community, and on the USD campus.

Participants:

- *Clinical practice:* Adults with neurological diagnoses receiving OT intervention
- *Community programs:* Adults diagnosed with PD who were attending weekly exercise classes
- *USD OT Program:* First- and second-year OT students

Instruments:

- Pittsburgh Sleep Quality Index (PSQI) (Buysse et al., 1989)
- Electronic surveys (Google Forms)
 - *PD Sleep Performance Survey:* Gathered information about sleep quality
 - 5-Point Likert scale with answer choices ranging from strongly disagree (1) to strongly agree (5)
 - *Sleep Hygiene Program Survey:* Gathered information about willingness to participate in sleep-based program
 - 5-Point Likert scale with answer choices ranging from not willing (1) to willing (5)
 - *OT Student Survey:* Gathered information about importance/frequency of sleep hygiene in program curriculum
 - 5-Point Likert scale with answer choices ranging from strongly disagree (1) to strongly agree (5)

Procedures/Activities

- **Goal #1:** The student will gain advanced clinical knowledge and skills pertaining to adult neurological disorders through collaboration with an occupational therapist and other members of the interprofessional team.
 - *Deliverables:* LSVT BIG certification, leading LSVT lab session for OT students, and developed educational case series.
- **Goal #2:** The student will demonstrate leadership through education and advocacy for OT's role in sleep promotion to clients, family members, OT practitioners, and members of the interprofessional team.
 - *Deliverables:* PSQI and summary, OT student survey, sleep hygiene presentation, and sleep hygiene website.
- **Goal #3:** The student will develop a sleep hygiene program specifically tailored to individuals with PD.
 - *Deliverables:* Needs assessment/SWOT analysis, literature review, and program manual.

RESULTS & OUTCOMES

Overall Outcomes

- **The student gained advanced clinical knowledge specific to adult neurological disorders.**
 - Gained experience evaluating, assessing, and providing intervention to those with neurological disorders
 - Obtained relevant certifications (LSVT BIG) and demonstrated skills/knowledge through service delivery and deliverable completion
- **The student advocated for OT's role in sleep promotion and provided education relevant to the topic of sleep.**
 - Evidenced through presentations, delivering relevant assessment tools, and creating sleep hygiene resources and tools for practitioners and clients with PD
- **The foundation for a sleep hygiene program specific to PD was created.**
 - The needs of this population and for this program were assessed, and the framework for such a program was created.

Survey Outcomes

Administration of PSQI, PD sleep performance survey, and sleep hygiene program survey with PD exercise group:

- All participant scores indicated poor sleep performance.
- Almost half reported that poor sleep has negatively impacted quality of life and overall meaningful participation ($M= 3.21, SD=2.87$).
- 81% reported a willingness to participate in future educational sessions specific to sleep ($M= 4.38, SD=3.92$).

Administration of OT student survey:

- 92% of students strongly agreed that sleep is an important performance area ($M= 4.92, SD=4.40$), while only a third felt as though they could effectively address sleep needs for future clients.



DISCUSSION

- Sleep is a necessary occupation for recovering from the day's stressors and maintaining optimal health, well-being, and quality of life.
- Although the presence of sleep disorders are well-documented for those with PD, many do not feel as though their sleep needs are adequately addressed.
- There is an ongoing need for those within the OT profession to address the important occupation of sleep for clients.
- A variety of factors negatively influence sleep performance for those with PD, highlighting the need for a comprehensive sleep management program that can be tailored to the client's individual needs.
- By addressing the occupation of sleep, a foundation can be laid that allows the individual to more meaningfully participate in daily life activities and roles.

IMPLICATIONS FOR OT

- There is a need for increased attention to sleep hygiene within curriculum and a need for future OT practitioners to expand their knowledge related to the topic.
- There is a need for further advocacy for the role of OT in sleep management.
- Additional research is needed to outline additional evidence-based interventions strategies that can be utilized with this population to improve sleep outcomes.
- Occupational therapy practitioners should work to increase awareness of the importance of sleep since sleep directly influences general health and well-being (Tester & Foss, 2018).

REFERENCES

