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Parkinson's Disease

Current Awareness Bulletin

May 2017

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Title: Enhancing Care for Hospitalized Patients With Parkinson's Disease: Development of a Formal Educational Program for Nursing Staff

Citation: Journal of Gerontological Nursing; May 2017; vol. 43 (no. 5); p. 18-22

Author(s): DiBartolo, Mary C

Abstract: Although not generally a primary admission diagnosis, Parkinson's disease (PD) can be a significant comorbidity during hospitalization. Hospitalized individuals with PD can experience a variety of complications, such as confusion, pneumonia, and urinary infections. More than 20% of patients experience deterioration in symptoms and hospital stays are extended by an average of 4 days. Late, omitted, or inappropriate medications are frequent culprits leading to serious consequences, including falls and aspiration. To address an identified gap in staff knowledge about PD, a formal educational program was developed to review its etiology, symptoms, treatments, and unique considerations in care and medication administration. This 2-hour intervention comprises a knowledge pre-test, PowerPoint® presentation, two concise handouts for reference, discussion of an unfolding case study, and review of the Aware in Care kit. Nurses can play a key role in educating staff to reduce avoidable hospital-related complications and enhance outcomes for this vulnerable group References

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Title: Comparison of self and proxy ratings for voice handicap index and motor-related quality-of-life of individuals with Parkinson’s disease.

Citation: International Journal of Speech-Language Pathology; Apr 2017; vol. 19 (no. 2); p. 174-183

Author(s): Parveen, Sabiha; Goberman, Alexander M.

Purpose: Quality-of-life (QoL) consists of health, psychological well-being and communication-related domains. Due to the heterogeneous nature of Parkinson disease (PD), it is important to examine effects of different domains including motor and cognitive performance or motor and speech performance among the same set of individuals. Existing studies indicate mixed findings due to use of different QoL measures and lack of general consensus regarding QoL components.

Method: The present study examined self and proxy ratings for 20 individuals with PD on Voice Handicap Index (VHI) and PDQ-39 mobility to determine effects on speech and motor-related QoL, respectively.

Result: There was good level of agreement between self and proxy ratings for PDQ-39 mobility ratings alone. In addition, no overall group differences were found for self and proxy ratings of VHI and PDQ-39 mobility ratings, thus indicating similar perceptions by individuals with PD and their communication partners for speech and motor-related changes associated with PD. Further, no significant correlations between speech and motor-related QoL were found, thereby suggesting these domains to be independent of each other.

Conclusion: The present study indicates the need to consider both self and proxy reports to understand the impact of PD on a person’s overall functioning.

Title: Living with Parkinson's Disease.

Citation: Journal of Psychosocial Nursing & Mental Health Services; Apr 2017; vol. 55 (no. 4); p. 15-18

Author(s): Sorrell, Jeanne M.

Abstract: Parkinson's disease is one of the most common chronically disabling disorders of the nervous system. The disorder affects predominately older adults; only 4% of individuals are diagnosed before age 50. Receiving a diagnosis of Parkinson's disease can be overwhelming for someone who is active and feels healthy, but new research shows that patients who take charge of their illness by adopting healthful habits of mind and body can slow the development of the disease and have a better quality of life.

Title: Auditory Processing Abilities of Parkinson’s Disease Patients.

Citation: BioMed Research International; May 2017 ; p. 1-10

Author(s): Folmer, Robert L.; Vachhani, Jay J.; Theodoroff, Sarah M.; Ellinger, Rachel; Riggins, Amy

Abstract: Since Parkinson’s Disease (PD) primarily affects older people, a majority of PD patients have age-related hearing loss (HL) that will worsen over time. The goal of this study was to assess peripheral and central auditory functions in a population of PD patients and compare the results with a group of age-matched control subjects. Study participants included 35 adults with PD (mean age = 66.9 ± 11.2 years) and a group of 35 healthy control subjects (mean age = 65.4 ± 12.3 years). Assessments included questionnaires, neuropsychological tests, audiometric testing, and a battery of central auditory processing tests. Both study groups exhibited patterns of sensorineural hearing loss (slightly worse in the PD group) which were typical for their age and would contribute to difficulties in communication for many participants. Compared to the control group, PD patients reported greater difficulty in hearing words people are speaking. Although 27 PD patients (77%) were good candidates for amplification, only 7 (26%) of these hearing aid candidates used the devices. Because it is important for PD patients to optimize communication with their family members, caregivers, friends, and clinicians, it is vital to identify and remediate auditory dysfunction in this population as early as possible.

Title: Benefits of Exercise on the Executive Functions in People with Parkinson Disease.

Citation: American Journal of Physical Medicine & Rehabilitation; May 2017; vol. 96 (no. 5); p. 301-306

Author(s): de Oliveira, Renata Terra; Assunção Felippe, Lilian; Bucken Gobbi, Lilian Teresa; Barbieri, Fabio Augusto; Christofoletti, Gustavo

Objective: We have made a 3-arm trial (group vs. individual exercise vs. no treatment) to test the effects of a 6-month exercise program upon the executive functions in participants with Parkinson disease.

Methods: Twenty-four subjects were randomly allocated in 3 groups and undertook individualized exercises (G1, n = 8), group exercises (G2, n = 8), or monitoring (G3, n = 8). Executive functions were evaluated by means of the Wisconsin card sorting test and the Raven colored matrices, both assessed at the beginning of the program and after 6 months. The statistical analyses consisted of the application of repeated measurement tests, with a significant level of 5%.

Results: The findings showed similar behavior of groups in terms of the Wisconsin card sorting test (P = 0.792), reporting no benefit of the program on such instrument. Differently, Raven colored matrices evidenced a significant benefit provided by the intervention (P = 0.032). Compared with the control group, individuals from G1 had a substantial improvement on executive functions (P = 0.031) and from G2 had a trend of significance (P =0.072).

Conclusion: Findings of this study show that 6 months of exercise improved some aspects of executive functions when compared with control peers. Individual therapy seems to have a more prominent improvement than group therapy.

Title: The effect of subthalamic stimulation on viscoelastic stiffness of skeletal muscles in patients with Parkinson's disease.

Citation: Clinical Biomechanics; May 2017; vol. 44 ; p. 94-98

Author(s): Rätsep, Tõnu; Asser, Toomas

Background: Myotonometric evaluation of viscoelastic stiffness of skeletal muscles has been proposed to document the effect of surgical or pharmacological treatment on rigidity in patients with Parkinson's disease. The aim of the study was to analyze the changes of viscoelastic stiffness induced by deep brain stimulation.

Methods: Fifteen patients in an advanced stage of Parkinson's disease participated in the study. The study took place in the off-medication conditions after one night of drug withdrawal. The Unified Parkinson's Disease Rating Scale was used for clinical assessment of the disease. Myotonometry was used to measure viscoelastic stiffness in the resting muscles before and directly after passive wrist movements, commonly used for clinical evaluation of rigidity. The measurements were repeated during the stimulation-on and stimulation-off periods and compared with fifteen healthy control persons.

Findings: The clinical scores for wrist rigidity improved from 3.0 (1–4) to 0.93 (0–2) ($P < 0.05$) due to brain stimulation. The mean values of viscoelastic stiffness were similar before and after passive wrist movements, but the differences between the patients with high vs. low rigidity values (354.9 vs 310.2 N/m; $P < 0.05$) and in stimulation-off vs. stimulation-on conditions (342.7 vs 310.5 N/m; $P < 0.05$) were significant only if the measurements had been performed after passive wrist movements.

Interpretation: Effective deep brain stimulation and increased rigidity can significantly change viscoelastic stiffness in the resting muscles in patients with Parkinson's disease, especially if evaluated after passive wrist movements. This paper supports the use of myotonometry for objective quantification of parkinsonian rigidity at rest.

Title: Evaluating Outcomes for Older Patients with Parkinson's Disease or Dementia with Lewy Bodies who have been Hospitalised for Hip Fracture Surgery: Potential Impact of Drug Administration.

Citation: Drugs & Aging; May 2017; vol. 34 (no. 5); p. 387-392

Author(s): Enemark, Marie; Midttun, Mette; Winge, Kristian

Introduction: People with Parkinson's disease (PD) are at risk of falling and have an increased risk of complications and prolonged recovery during hospitalisation.

Objective: The aim of this study was to investigate the rate of complications and recovery related to a hip fracture in patients with PD.

Methods: All patients with PD or dementia with Lewy bodies (DLB) and a hip fracture who were admitted from January 2013 through June 2014 (18 months) to the Department of Orthopaedics, Copenhagen University Hospital, Herlev, Denmark were evaluated. Data regarding duration of admission, complications, timing of administration of anti-PD medication, and level of mobility at discharge were obtained from files of patients with PD or DLB and compared with data from a comparable group of patients who were admitted with a hip fracture and chronic obstructive pulmonary disease (COPD).

Results: A total of 31 patients with PD or DLB (PD/DLB group) and 45 patients with COPD (COPD group) were registered during the timeframe investigated. The patients in the PD/DLB group were significantly ($p < 0.05$) younger than those in the COPD group (77.7 vs. 80.7 years, respectively) and had lower co-morbidity scores (0.9 vs 2.6, respectively). There were no significant differences in length of stay, delirium, or number of infections between the groups. Two thirds of patients with PD were not able to walk unassisted at discharge. Less than 50% of anti-PD medication was given within ±1 h of the scheduled time.

Conclusions: Although patients with PD/DLB are significantly younger and have significantly lower degrees of co-morbidity than patients with COPD, their course and recovery after surgery are equivalent to those of patients with COPD. Patients with PD/DLB are at high risk of developing complications during hospital admission for hip fracture.

Title: How we transformed the care of people with Parkinson's disease.

Citation: Nursing Older People; May 2017; vol. 29 (no. 4); p. 16-17

Author(s): Thomas, Chris

Abstract: The article reports on the initiative of Cardiff and Vale University Health Board's Parkinson's disease (PD) service to improve services for older patients with the condition. Topics mentioned include the struggle of people with more advanced disease to mobilise in clinic, cost savings shown by financial analysis, and an award won by the PD service for its integration of a pharmacist into the service and the nursing home clinic

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Title: Time for new treatments for Parkinson's disease.

Citation: British Journal of Neuroscience Nursing; Apr 2017; vol. 13; p. 57-57

Author(s): Woodward, Sue

Abstract: The author discusses some issues and updates related to Parkinson's disease as part of the Parkinson's Awareness Week in April 2017 including the decision of non-profit group Parkinson's UK to increase awareness of the disease, investigation on new treatments, and the need for neuroscience nurses to be aware of new treatments.

Title: Advances in Parkinson's disease.

Citation: British Journal of Neuroscience Nursing; Apr 2017; vol. 13; p. 94-95

Author(s): Queen, Vicky

Abstract: The article offers updates on the pharmacological advances that may have an influence on nurse caring for people living with Parkinson's disease as of April 2017 including first-line treatments, the future for Parkinson's management, and adjunct therapies.

Title: A home program of strength training, movement strategy training and education did not prevent falls in people with Parkinson’s disease: a randomised trial.

Citation: Journal of Physiotherapy (Elsevier); Apr 2017; vol. 63 (no. 2); p. 94-100

Author(s): Morris, Meg E; Taylor, Nicholas F; Watts, Jennifer J; Evans, Andrew; Horne, Malcolm; Kempster, Peter; Danoudis, Mary; Mcginley, Jennifer; Martin, Clarissa; Menz, Hylton B

Questions: For people with idiopathic Parkinson’s disease, does a 6-week, comprehensive, home exercise program reduce falls and disability and improve health-related quality of life? Is the program cost-effective? Design Randomised, controlled trial with concealed allocation and assessor blinding.

Participants: One hundred and thirty-three community-dwelling adults with Parkinson’s disease. Intervention The experimental group completed a 6-week home program comprising progressive resistance strength training, movement strategy training and falls education. The control group completed 6 weeks of non-specific life skills training. Participants in both groups received weekly therapist-guided sessions for 6 consecutive weeks and a weekly self-directed home program.

Outcome measures: The primary outcome was the rate of falls, documented for the 12-month period immediately after therapy. Secondary outcomes were disability and health-related quality of life, assessed before and after intervention and at a 12-month follow-up. Results A total of 2255 falls were reported by the 12-month follow-up. The proportion of fallers in the experimental and control groups was 61 and 72%, respectively, which was not statistically significantly different (RR = 0.85, 95% CI 0.66 to 1.09). There was no significant between-group difference in the rate of falls (incidence rate ratio = 1.58, 95% CI 0.73 to 3.43). A survival analysis of participant time to first fall did not show a significant between-group difference (log-rank test χ 2 = 0.79, p = 0.37). No significant between-group differences occurred for mobility, disability or quality of life. The mean cost of delivering the experimental intervention was AUD1596.

Conclusion: A home program of strength and movement strategy training and falls education does not prevent falls when applied at the dose used in this study. Arguably, the dosage of therapy was insufficient. Future trials need to explore further therapy content, repetitions and duration, in order to optimise outcomes and cost-effectiveness. [Morris ME, Taylor NF, Watts JJ, Evans A, Horne M, Kempster P, Danoudis M, McGinley J, Martin C, Menz HB (2017) A home program of strength training, movement strategy training and education did not prevent falls in people with Parkinson’s disease: a randomised trial. Journal of Physiotherapy 63: 94–100]

Title: More than just dancing: experiences of people with Parkinson’s disease in a therapeutic dance program.

Citation: Disability & Rehabilitation; Jun 2017; vol. 39 (no. 11); p. 1073-1078

Author(s): Morris, Meg E; Taylor, Nicholas F; Watts, Jennifer J; Evans, Andrew; Horne, Malcolm; Kempster, Peter; Danoudis, Mary; Mcginley, Jennifer; Martin, Clarissa; Menz, Hylton B

Purpose*:* To understand why individuals with Parkinson's disease (PD) participate in a community-based therapeutic dance program and to explore its influence on perceived physical, social and emotional well-being of participants.

Methods: A qualitative descriptive design was employed using one-on-one semi-structured interviews. Individuals with PD who participated in the Dancing with Parkinson's program were recruited from two locations. Interviews were audio-recorded, transcribed, de-identified and then placed into NVivo 10 software for analysis. A content analysis approach was used with an inductive analysis method to generate a coding scheme. Group discussion facilitated development of overarching themes.
Results: Ten participants' responses revealed that the dance program allows for self-improvement and regaining identity through disease self-management. Positive influences of socialization arose through the class, decreasing isolation and improving quality of life. Participants communicate through music and dance to enhance connection with others.
Conclusions: Dancing with Parkinson's classes allow for re-development of the social self, which can increase sense of enjoyment in life. Dance programs provide opportunities for social interaction, non-verbal communication and self-improvement, reestablishing self-identity and a sense of usefulness. This study provides unique insight into the experience of participating in a dance program from the perspective of individuals with PD. Implications for rehabilitation Dance is emerging as a strategy to address the physical and psychosocial effects of Parkinson's disease (PD), but little is known regarding participants' perceptions of community-based therapeutic dance programs for PD. This study found that Dancing with Parkinson's (DWP) facilitated an improvement in social participation, resulting in decreased isolation and improved quality of life. Participation in the DWP program can facilitate a positive change in perspective and attitude toward a PD diagnosis, thereby increasing feelings of self-efficacy and improving self-management of the disease. Participants of this study emphasized the multifaceted benefits of DWP, suggesting that it has great potential for addressing not only the physical challenges, but also the cognitive and emotional challenges associated with PD.

Title: Cognitive Behavior Therapy for Anxiety in Parkinson’s Disease: Outcomes for Patients and Caregivers.

Citation: Clinical Gerontologist; May 2017; vol. 40 (no. 3); p. 159-171

Author(s): Dissanayaka, Nadeeka N. W.; Pye, Deidre; Mitchell, Leander K.; Byrne, Gerard J.; O’Sullivan, John D.; Marsh, Rodney; Pachana, Nancy A.

Objective: Anxiety negatively impacts the quality of life of Parkinson’s disease (PD) patients and caregivers. Despite high prevalence, there is a paucity of trials investigating effective treatments for anxiety in PD. This uncontrolled study investigated the use of a manualized and tailored Cognitive Behavior Therapy (CBT) for anxiety in PD.
Methods: Participants completed 6 weekly CBT sessions. Pre-, post- and follow-up (3 and 6 months) assessments were made. Change in outcomes were analysed using t-tests and Reliability Change Index. Of 17 PD patients who agreed to CBT, 12 completed the intervention.
Results: This study showed a significant reduction in Hamilton Anxiety Rating Scale scores in PD immediately post CBT ($t(11) = 3.59$, $p < .01$), maintained at 3-month ($t(8) = 2.83$, $p = .02$) and 6-month ($t(7) = 2.07$, $p = .04$) follow-up. A reduction in caregiver burden ($t(11) = 2.68$, $p = .03$) was observed post intervention. Improvements in motor disability ($t(11) = 2.41$, $p = .04$) and cognitive scores ($t(11) = -2.92$, $p = .01$) were also observed post intervention and at follow-up.
Conclusions: Tailored CBT can be used to treat anxiety in PD.
Clinical Implications: This study provides preliminary evidence suggesting that tailored CBT reduces anxiety in PD with persisting benefits, and lowers caregiver burden.

Title: Nursing Research in Parkinson's Disease From 2006 to 2015: A Systematic Review.

Citation: Clinical Nursing Research; Apr 2017; vol. 26 (no. 2); p. 142-156

Author(s): Ju Young Shin; Habermann, Barbara

Abstract: Most people with Parkinson's disease (PD) reside in their homes with their family members. Nurses are in a good position to partner with people with PD and their family members for better self-management of the disease and improved quality of life. The purpose of this systematic review was to assess the state of the science of nursing research related to PD during the 10-year period, 2006 to 2015. A total of 27 studies were included in this review. Family caregiving was the most studied topic, followed by symptom management/medication adherence, quality of life, end-of-life/palliative care, and functional status/improving function. Recommendations for future studies in PD include (a) developing and testing interventions based on theoretical models in the areas of self-management, symptom management, and function improvement in people with PD and for caregivers caring for people with advanced stage PD, and (b) building programs of research with interprofessional teams.

Title: What increases the risk of malnutrition in Parkinson's disease?

Citation: Journal of the neurological sciences; Apr 2017; vol. 35; p. 235-238

Author(s): Tomic, Svetlana; Pekic, Vlasta; Popijac, Zeljka; Pucic, Tomislav; Petek, Marta; Kuric, Tihana Gilman; Misevic, Sanja; Kramaric, Ruzica Palic

Abstract: Parkinson's disease (PD) patients are at a higher risk of malnutrition. The prevalence has been estimated to 0-24%, while 3%-60% of PD patients are reported to be at risk of malnutrition. To date, there is no clear explanation for malnutrition in these patients. The aim of this study was to determine the prevalence of malnutrition and to analyze factors that influence its appearance. The Mini Nutritional Assessment (MNA) was used to determine normal nutritional status; at risk of malnutrition; and already malnourished status. The Unified Parkinson's Disease Rating Scale (UPDRS) parts III and IV, Hoehn and Yahr scale (H&Y scale), Beck Depression Inventory (BDI), Mini Mental State Examination (MMSE), Questionnaire for Impulsive-Compulsive Disorders in Parkinson's Disease-Rating Scale - eating part (QUIP-RS) and Mini Nutritional Assessment (MNA) were used to evaluate the factors affecting patient nutritional status. Out of 96 patients, 55,2% were at risk of malnutrition, while 8,3% had already been malnourished. Age, H&Y scale, UPDRS part III, 'off' periods and depression influence negatively on MNA. More patients with 'off' periods were rigor dominant. Thyroid gland hormone therapy was related to malnutrition, while patients with normal nutritional status used ropinirole more often than pramipexole. Factors affecting nutritional status are age, motor symptoms and stage severity, 'off' states, rigidity dominant type with 'off' states, and thyroid hormone replacement therapy. Ropinirole exhibited the possible 'protective' effect against malnutrition.

Title: Benefits of Exercise on the Executive Functions in People with Parkinson Disease: A Controlled Clinical Trial.

Citation: American journal of physical medicine & rehabilitation; May 2017; vol. 96 (no. 5); p. 301-306

Author(s): de Oliveira, Renata Terra; Felippe, Lilian Assunção; Bucken Gobbi, Lilian Teresa; Barbieri, Fabio Augusto; Christofoletti, Gustavo

Objective: We have made a 3-arm trial (group vs. individual exercise vs. no treatment) to test the effects of a 6-month exercise program upon the executive functions in participants with Parkinson disease.

Methods: Twenty-four subjects were randomly allocated in 3 groups and undertook individualized exercises (G1, n = 8), group exercises (G2, n = 8), or monitoring (G3, n = 8). Executive functions were evaluated by means of the Wisconsin card sorting test and the Raven colored matrices, both assessed at the beginning of the program and after 6 months. The statistical analyses consisted of the application of repeated measurement tests, with a significant level of 5%.

Results: The findings showed similar behavior of groups in terms of the Wisconsin card sorting test (P = 0.792), reporting no benefit of the program on such instrument. Differently, Raven colored matrices evidenced a significant benefit provided by the intervention (P = 0.032). Compared with the control group, individuals from G1 had a substantial improvement on executive functions (P = 0.031) and from G2 had a trend of significance (P = 0.072).

Conclusion: Findings of this study show that 6 months of exercise improved some aspects of executive functions when compared with control peers. Individual therapy seems to have a more prominent improvement than group therapy.

Title: Walking on four limbs: A systematic review of Nordic Walking in Parkinson disease.

Citation: Parkinsonism & related disorders; May 2017; vol. 38; p. 8-12

Author(s): Bombieri, Federica; Schena, Federico; Pellegrini, Barbara; Barone, Paolo; Tinazzi, Michele; Erro, Roberto

Abstract: Nordic Walking is a relatively high intensity activity that is becoming increasingly popular. It involves marching using poles adapted from cross-country skiing poles in order to activate upper body muscles that would not be used during normal walking. Several studies have been performed using this technique in Parkinson disease patients with contradictory results. Thus, we reviewed here all studies using this technique in Parkinson disease patients and further performed a meta-analysis of RCTs where Nordic Walking was evaluated against standard medical care or other types of physical exercise. Nine studies including four RCTs were reviewed for a total of 127 patients who were assigned to the Nordic Walking program. The majority of studies reported beneficial effects of Nordic Walking on either motor or non-motor variables, but many limitations were observed that hamper drawing definitive conclusions and it is largely unclear whether the benefits persist over time. It would appear that little baseline disability is the strongest predictor of response. The meta-analysis of the 4 RCTs yielded a statistically significant reduction of the UPDRS-3 score, but its value of less than 1 point does not appear to be clinically meaningful. Well-designed, large RCTs should be performed both against standard medical care and other types of physical exercise to definitively address whether Nordic Walking can be beneficial in PD.

Title: Improving Prospective Memory in Persons with Parkinson Disease: A Randomized Controlled Trial.

Citation: Neurorehabilitation and neural repair; May 2017; vol. 31 (no. 5); p. 451-461

Author(s): Foster, Erin R; McDaniel, Mark A; Rendell, Peter G

Background: Prospective memory (PM) is essential for productive and independent living and necessary for compliance with prescribed health behaviors. Parkinson disease (PD) can cause PM deficits that are associated with activity limitations and reduced quality of life. Forming implementation intentions (IIs) is an encoding strategy that may improve PM in this population.

Objective: To determine the effect of IIs on PM performance in PD.

Methods: This was a laboratory-based randomized controlled trial. Participants with mild to moderate PD without dementia (n = 62) performed a computerized PM test (Virtual Week) under standard instructions. One week later they were randomly allocated to perform it again while using either IIs or a rehearsal (RR) encoding strategy.

Results: PM performance was better with the use of both strategies relative to standard instructions. This effect was larger for tasks with event-based compared with time-based cues. In addition, IIs resulted in a larger effect than RR for the nonrepeated tasks.

Conclusions: Strategies that support full encoding of PM cues and actions can improve PM performance among people with PD, particularly for tasks with cues that are readily available in the environment. IIs may be more effective than RR for nonrepeated tasks, but this finding warrants verification. Future work should address transfer of strategy use from the laboratory to everyday life. Targeted strategies to manage PM impairment could improve function and quality of life and significantly affect clinical care for people with PD.

Title: Effectiveness of exergaming in improving functional balance, fatigue and quality of life in Parkinson's disease: A pilot randomized controlled trial.

Citation: Parkinsonism & related disorders; May 2017; vol. 38 ; p. 13-18

Author(s): Ribas, Camila Gemin; Alves da Silva, Letícia; Corrêa, Marina Ribas; Teive, Hélio Ghizone; Valderramas, Silvia

Introduction: Although motor symptoms in Parkinson's disease (PD) are well established, few studies have described the effects of exergaming on the clinical and functional outcomes of PD.

Objectives: To analyze the effectiveness of exergaming in improving functional balance, fatigue, functional exercise capacity and quality of life in PD.

Methods: The study population consisted of 20 patients (12 males and 8 females) aged 61 ± 9.11 years allocated into two groups: an exergaming group (EGG) (n = 10) and a conventional exercise, or control, group (CG) (n = 10). The following variables were evaluated: functional balance (Berg Scale), fatigue (Fatigue Severity Scale), functional exercise capacity (Six-Minute Walk Test) and quality of life (PDQ-39 Quality of Life Questionnaire).

Results: RM-ANOVA showed that balance and fatigue differed significantly between time points: balance [F(1.29, 23.33) = 4.16, p = 0.043] and fatigue [F(2,36) = 5.96, p = 0.006]. In both cases post hoc Bonferroni testing revealed an improvement after 12 weeks of exergaming (p = 0.033 and p = 0.000, respectively). However, this benefit was not sustained after 60 days of follow-up for either outcome. There were no differences in functional exercise capacity or quality of life between the two groups after 12 weeks of treatment.

Conclusion: Exergaming was effective in enhancing balance and reducing fatigue in PD patients after 12 weeks of treatment, but this benefit was not sustained in the long-term.

Title: Pain perception in Parkinson's disease: A systematic review and meta-analysis of experimental studies.

Citation: Ageing research reviews; May 2017; vol. 35 ; p. 74-86

Author(s): Thompson, Trevor; Gallop, Katy; Correll, Christoph U; Carvalho, Andre F; Veronese, Nicola; Wright, Ellen; Stubbs, Brendon

Abstract: While hyperalgesia (increased pain sensitivity) has been suggested to contribute to the increased prevalence of clinical pain in Parkinson's disease (PD), experimental research is equivocal and mechanisms are poorly understood. We conducted a meta-analysis of studies comparing PD patients to healthy controls (HCs) in their response to experimental pain stimuli. Articles were acquired through systematic searches of major databases from inception until

10/2016. Twenty-six studies met inclusion criteria, comprising 1292 participants (PD=739, HCs=553). Random effects meta-analysis of standardized mean differences (SMD) revealed lower pain threshold (indicating hyperalgesia) in PD patients during unmedicated OFF states (SMD=0.51) which was attenuated during dopamine-medicated ON states (SMD=0.23), but unaffected by age, PD duration or PD severity. Analysis of 6 studies employing suprathreshold stimulation paradigms indicated greater pain in PD patients, just failing to reach significance (SMD=0.30, p=0.06). These findings (a) support the existence of hyperalgesia in PD, which could contribute to the onset/intensity of clinical pain, and (b) implicate dopamine deficiency as a potential underlying mechanism, which may present opportunities for the development of novel analgesic strategies.

Title: Association between cognitive impairment and urinary dysfunction in Parkinson's disease.

Citation: Journal of neural transmission (Vienna, Austria : 1996); May 2017; vol. 124 (no. 5); p. 543-550

Author(s): Tkaczynska, Zuzanna; Pilotto, Andrea; Becker, Sara; Gräber-Sultan, Susanne; Berg, Daniela; Liepelt-Scarfone, Inga

Abstract: Urinary dysfunction (UD) is a common non-motor feature of Parkinson's disease (PD), and might be secondary to neurodegeneration involving cortical and subcortical brain areas. The possible link between UD and cognitive deficits has never been examined in frontal cortex impairment, and is still not completely understood in PD. In the present study, 94 PD patients underwent a comprehensive motor, cognitive and non-motor assessment. It was shown that 55.3% of patients reported UD, of which 17% needed specific urological treatment. Patients who reported UD performed worse on global cognition (PANDA, p = .05), visuo-constructive functions (CERAD/praxis, p = .03; and Figure Test, p = .03), and instrumental activities of daily living functions (IADL, p = .03), than patients without UD. The group with UD medication performed worse on global cognition (PANDA, p = .02) and visuo-constructive functions (CERAD/praxis, p = .05; CERAD/praxis recall, p = .05) than the UD group without medication, independent of anticholinergic treatment effect. Our findings suggest an association between cognitive impairment and UD in PD independent from symptomatic treatment.

Sources Used
The following databases are searched on a regular basis in the development of this bulletin: Amed, British Nursing Index, Cinahl, Medline