

Parkinson's Disease Current Awareness Bulletin

February 2019

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Title: Rapid evidence assessment of approaches to community neurological nursing care for people with neurological conditions post-discharge from acute care hospital

Citation: Health & Social Care in the Community; Jan 2019; vol. 27 (no. 1); p. 43

Author(s): Pugh, Judith Dianne; McCoy, Kathleen; Williams, Anne M; Bentley, Brenda; Monterosso, Leanne

Abstract: Neurological conditions represent leading causes of non-fatal burden of disease that will consume a large proportion of projected healthcare expenditure. Inconsistent access to integrated healthcare and other services for people with long-term neurological conditions stresses acute care services. The purpose of this rapid evidence assessment, conducted February–June 2016, was to review the evidence supporting community neurological nursing approaches for patients with neurological conditions post-discharge from acute care hospitals. CINAHL Plus with Full Text and MEDLINE were searched for English-language studies published January 2000 to June 2016. Data were extracted using a purpose-designed protocol. Studies describing community neurological nursing care services post-discharge for adults with stroke, dementia, Alzheimer's disease, Parkinson's disease, multiple sclerosis or motor neurone disease were included and their quality was assessed. Two qualitative and three quantitative studies were reviewed. Two themes were identified in the narrative summary of findings: (i) continuity of care and self-management and (ii) variable impact on clinical or impairment outcomes. There was low quality evidence of patient satisfaction, improved patient social activity, depression scores, stroke knowledge and lifestyle modification associated with post-discharge care by neurological nurses as an intervention. There were few studies and weak evidence supporting the use of neurology-generalist nurses to promote continuity of care for people with long-term or progressive, long-term neurological conditions post-discharge from acute care hospital. Further research is needed to provide role clarity to facilitate comparative studies and evaluations of the effectiveness of community neurological nursing models of care.

Title: A Randomized Crossover Pilot Study of Telemedicine Delivered via iPads in Parkinson's Disease.

Citation: Parkinson's Disease (20420080); Jan 2019 ; p. 1-7

Author(s): Sekimoto, Satoko; Oyama, Genko; Hatano, Taku; Sasaki, Fuyuko; Nakamura, Ryota; Jo, Takayuki; Shimo, Yasushi; Hattori, Nobutaka

Background: We investigated the feasibility and safety of a video-based telemedicine system, delivered via a tablet, in Parkinson's disease (PD).

Methods: In a randomized, crossover, open-label pilot trial, we compared a telemedicine period (regular visits every two months with intermediate video calls via an iPad mini) with a control period (regular visits every two months), both lasting 6 months. We included 10 patients diagnosed with PD according to the British Brain Bank criteria, aged 20–75 years. The primary outcome was the PD questionnaire summary index (PDQ-39 SI). Secondary outcomes included the Hoehn and Yahr Stage and scores on the Unified PD Rating Scale (UPDRS) part I–IV, Beck Depression Inventory (BDI), and visual analog scale for satisfaction.

Results: Both study periods were completed by 10 patients with PD. Friedman's test revealed that there were no significant differences between the two periods in primary and secondary outcomes ($p > 0.05$). With respect to visual analog scale scores for satisfaction, participants indicated high satisfaction with the telemedicine system. The number of extra

hospital visits and phone calls did not differ between the periods. There were no adverse events or side effects.

Conclusions: We observed that a telemedicine system delivered via a tablet could successfully be used by patients as a part of their care. Further studies investigating the use of telemedicine to replace in-person visits are warranted. This trial is registered with UMIN000015536.

Title: Does fatigue in Parkinson's disease correlate with autonomic nervous system dysfunction?

Citation Neurological Sciences; Dec 2018; vol. 39 (no. 12); p. 2169-2174

Author(s): Olivola, Enrica; Brusa, Livia; Rocchi, Camilla; Schillaci, Orazio; Liguori, Claudio; Cerroni, Rocco; Pierantozzi, Mariangela; Chiaravalloti, Agostino; Stefani, Alessandro; Stocchi, Fabrizio

Background: Despite its negative impact on quality of life, fatigue in Parkinson's disease (PD) remains an under-recognized issue and the underlying pathology is undetermined.

Objective: To contribute at understanding the pathogenesis of fatigue in a naturalistic cohort of cognitively intact PD patients.

Methods: In a Caucasian population of PD patients ($n = 27$), we evaluated to what extent fatigue (quantified as PFS-16 score) is associated with PD duration and with autonomic dysfunction, studied by both MIBG scintigraphy and autonomic nervous system testing. The latter included the head-up tilt test, Valsalva maneuver, deep breathing, and handgrip tests.

Results: PFS-16 score correlated with disease duration ($R = 0.57$, $p = 0.002$). Fatigue showed a clear correlation with deep breathing test ($R = -0.53$, $p = 0.004$) but not with the MIBG H/M ratios.

Conclusions: Our data are consistent with a multifactorial pathogenesis of fatigue and with effects of dopamine depletion in PD-related fatigue; on the other hand, our findings do not support a role for sympathetic denervation in PD-related fatigue.

Title: Caregiver Experiences Across Three Neurodegenerative Diseases: Alzheimer's, Parkinson's, and Parkinson's With Dementia.

Citation: Journal of Aging & Health; Feb 2019; vol. 31 (no. 2); p. 256-279

Author(s): Roland, Kaitlyn P.; Chappell, Neena L.

Objective: This article asks whether distinct caregiver experiences of Alzheimer's disease (AD), Parkinson's disease (PD), and Parkinson's disease with dementia (PDD) spouses are accounted for by disease diagnosis or by a unique combination of symptoms, demands, support, and quality of life (QOL) cross disease groups.

Method: One hundred five live-in spouse caregivers (71.4 ± 7 years) were surveyed for persons with AD (39%), PD (41%), and PDD (20%). A hierarchical cluster analysis organized caregivers across disease diagnosis into clusters with similar symptom presentation, care demands, support, and QoL.

Results: Four clusters cut across disease diagnosis. "Succeeding" cared for mild symptoms and had emotional support. "Coping" managed moderate stressors and utilized formal supports. "Getting by with support" and "Struggling" had the greatest stressors; available

emotional support influenced whether burden/depression was moderate or severe. The results remain the same when diagnostic category is added to the cluster analysis.

Discussion: This study supports going beyond disease diagnosis when examining caregiver experiences.

Title: The Applied Effectiveness of Clay Art Therapy for Patients With Parkinson's Disease.

Citation: Journal of Evidence-Based Integrative Medicine; Dec 2018; vol. 23 (no. 1); p. 1-1

Author(s): Bae, Young-Sil; Kim, Dong-Hee

Abstract: This study investigates how clay art therapy affects Parkinson's disease patients' overall mental and physical condition as well as future treatment potentiality. The research was nonequivalent control groups pre and post study. A total of 54 patients with Parkinson's disease (control = 28, experimental = 26) were recruited from 3 setting locations in South Korea. Test measures were completed before and after the 16 sessions. The experimental group received two 80-minute evaluations per week for 8 weeks. Demographic information: hand dexterity, self-expression, mood depression, and quality of life measurements. There were significant differences in hand dexterity ($t = 4.96$, $P < .001$), self-expression ($t = 3.74$, $P < .001$), mood depression ($t = -11.85$, $P < .001$), and quality of life ($t = 8.07$, $P < .001$) between the 2 groups. Further research and development of clay art therapy can advocate the benefits, highlight practicality and demonstrate the possibility for its usage as a treatment methodology.

Title: Changes in Timing of Swallow Events in Parkinson's Disease.

Citation: Annals of Otology, Rhinology & Laryngology; Jan 2019; vol. 128 (no. 1); p. 22-27

Author(s): Schiffer, Breanne L.; Kendall, Katherine

Objectives: The prevalence of Parkinson's disease (PD) increases as the population ages. Dysphagia and subsequent aspiration pneumonia are common causes of morbidity and mortality in those with PD. To maximize the benefit of swallowing therapy, protocol design should be based on an understanding of the physiologic swallowing deficits present in the PD population. The aim of this study was to compare the timing of swallow events in a cohort of patients with PD with that in normal age-matched control subjects to characterize variations in the coordination of structural displacement and bolus movement that may contribute to dysphagia.

Methods: This retrospective study included 68 adults with diagnoses of PD. Liquid bolus swallows during modified barium swallow studies were analyzed and compared with those from an age- and sex-matched cohort of 48 adults without PD.

Results: Patients with PD were significantly slower in initiating and completing airway closure. Hyoid elevation was prolonged in this patient population.

Conclusions: Patients with PD demonstrate slower initiation of airway closure and a delay in relaxation of hyoid elevation during swallow. Delays increased with larger boluses. These findings may be related to impaired pharyngeal sensation and increased muscular rigidity. The results of this study will be helpful in guiding swallow therapy for patients with PD.

Title: Dietary Variations in a Multiethnic Parkinson's Disease Cohort and Possible Influences on Nonmotor Aspects: A Cross-Sectional Multicentre Study.

Citation: Parkinson's Disease (20420080); Dec 2018 ; p. 1-9

Author(s): Sauerbier, Anna; Schrag, Anette; Martinez-Martin, Pablo; Hall, Lynsey J.; Parry, Miriam; Mischley, Laurie K.; Zis, Panagiotis; Chaudhuri, K. Ray

Abstract: Dietary habits may differ between Parkinson's disease (PD) patients of different ethnicities. The primary aim of this cross-sectional analysis was to compare dietary habits in a multiethnic PD population and investigate potential nonmotor differences. All patients completed a dietary habits questionnaire. Besides basic demographics, patients' motor involvement (Hoehn and Yahr (HY)) and nonmotor symptoms (Nonmotor Symptoms Scale; Hospital Anxiety and Depression Scale) were assessed. 139 PD patients were included (mean age 66.8 ± 11.6 years; 61.2% male; mean disease duration 6.2 ± 5.2 years; median HY 3): 47.5% were White, 24.5% Asian, and 28.0% Black African and Caribbean (BAC). We found dietary differences between the groups, including a greater frequency of vegetarians and greater consumption of cumin, turmeric, and cinnamon as well as lower consumption of beef in Asian patients than in White and BAC and greater consumption of chili than in White patients and higher consumption of pork in White than Asian and BAC patients. There were no significant differences in dietary supplement consumption after correction for multiple comparisons. None of the dietary factors examined were associated with differences in nonmotor symptoms. Diet and supplement use vary in PD patients across ethnicities, this is both a problem and opportunity for nutritional medicine research. These data support the importance of considering ethnic diversity as part of recruitment strategy in nutrition and clinical studies.

Title: Cost-effectiveness of the HiBalance training program for elderly with Parkinson's disease: analysis of data from a randomized controlled trial.

Citation: Clinical Rehabilitation; Feb 2019; vol. 33 (no. 2); p. 222-232

Author(s): Joseph, Conran; Brodin, Nina; Leavy, Breiffni; Hagströmer, Maria; Löfgren, Niklas; Franzén, Erika

Objective: To determine the cost-effectiveness of the HiBalance training program for managing Parkinson's disease (PD)-related balance and gait disorders.

Design: Cost comparison design following the randomized controlled trial comparing a novel balance training intervention with care as usual.

Subjects: A total of 100 participants with mild–moderate PD were randomized to either the intervention (n = 51) or the control group (n = 49).

Intervention: A 10-week (three times per week), group-based, progressive balance training program, led by two physical therapists.

Main outcomes: All program costs were collected for both groups. Cost-utility was evaluated using quality-adjusted life years (QALYs) and cost-effectiveness measures were the Mini Balance Evaluation Systems Test (Mini-BESTest; assessing balance performance) and gait velocity. Incremental cost-effectiveness ratios were calculated and a probabilistic sensitivity analysis was conducted. Results: The between-group difference in QALYs was 0.043 (95% confidence interval (CI): 0.011–0.075), favoring the intervention group. Between-group differences in balance performance and gait velocity were 2.16 points (95% CI: 1.19–3.13) and 8.2 cm/second (95% CI: 2.9–13.6), respectively, favoring the intervention group. The mean cost per participant in the intervention group was 16,222 SEK (€1649) compared

to 2696 SEK (€274) for controls. The estimated incremental cost-effectiveness ratios were 314,558 SEK (€31,969) for an additional QALY, 6262 SEK (€631) for one point improvement in balance performance, and 1650 SEK (€166) for 1 cm/second increase in gait velocity. Sensitivity analyses indicated a high probability (85%) of program success.

Conclusion: In terms of QALYs, the HiBalance program demonstrated a high probability of cost-effectiveness in the short-term perspective when considering the willingness-to-pay thresholds used in Europe.

Title: Parkinson's Disease in the Era of Personalised Medicine: One Size Does Not Fit All.

Citation: Drugs & Aging; Feb 2019; vol. 36 (no. 2); p. 103-113

Author(s): Ryden, Lauren E.; Lewis, Simon J. G.

Abstract: The concept of personalised medicine in Parkinson's disease has arrived where the implications of findings made in research are certain to have an increasing impact upon clinical practice. Disease heterogeneity in Parkinson's disease has been well described and lends itself to the construct of personalised medicine where it is hypothesised that a greater understanding of genetic and pathophysiological contributions may underpin the sub-groups described. This in turn has driven the development of potentially individualised disease-modifying therapies where, for example, we are beginning to see treatments that target patients with Parkinson's disease with specific genetic mutations. Furthermore, clinicians are increasingly recognising the need to tailor their management approach to patients depending on their age of presentation, acknowledging differential side-effect profiles and responses especially when considering the use of device-assisted technologies such as infusion or surgery. Clearly, individualising the treatment of both motor and non-motor symptoms will remain imperative but, in the future, personalised medicine may provide clearer insights into various aspects of a patient's symptomatology, disease course and thus the best therapeutic approaches.

Title: Comparative Effectiveness of mHealth-Supported Exercise Compared With Exercise Alone for People With Parkinson Disease: Randomized Controlled Pilot Study.

Citation: Physical Therapy; Feb 2019; vol. 99 (no. 2); p. 203-216

Author(s): Ellis, Terry D; Cavanaugh, James T; DeAngelis, Tamara; Hendron, Kathryn; Thomas, Cathi A; Saint-Hilaire, Marie; Pencina, Karol; Latham, Nancy K

Background: Declining physical activity commonly occurs in people with Parkinson disease (PD) and contributes to reduced functional capacity and quality of life.

Objective: The purpose of this study was to explore the preliminary effectiveness, safety, and acceptability of a mobile health (mHealth)-mediated exercise program designed to promote sustained physical activity in people with PD. Design This was a 12-month single-blind (assessor), pilot, comparative-effectiveness, randomized controlled study.

Methods: An mHealth-mediated exercise program (walking with a pedometer plus engagement in planned exercise supported by a mobile health application) was compared over 1 year with an active control condition (walking with a pedometer and exercise only). There were 51 participants in a community setting with mild-to-moderately severe (Hoehn and Yahr stages 1–3) idiopathic PD. Daily steps and moderate-intensity minutes were measured using a step activity monitor for 1 week at baseline and again at 12 months.

Secondary outcomes included the 6-Minute Walk Test, Parkinson Disease Questionnaire 39 mobility domain, safety, acceptability, and adherence.

Results: Both groups increased daily steps, moderate-intensity minutes, and 6-Minute Walk Test, with no statistically significant between-group differences observed. In the less active subgroup, changes in daily steps and moderate-intensity minutes were clinically meaningful. An improvement in the Parkinson Disease Questionnaire 39 mobility score favored mHealth in the overall comparison and was statistically and clinically meaningful in the less active subgroup. Limitations The limitation of the current study was the small sample size.

Conclusions: Both groups improved physical activity compared with expected activity decline over 1 year. The addition of the mHealth app to the exercise intervention appeared to differentially benefit the more sedentary participants. Further study in a larger group of people with low activity at baseline is needed.

Title: Understanding the Experience and Perspectives of Parkinson's Disease Patients' Caregivers.

Citation: Rehabilitation Research & Practice; Jan 2019 ; p. 1-9

Author(s): Walga, Tamene Keneni

Abstract: This research sets out to explore, uncover, and understand the experiences and perspectives of people who care for patients with Parkinson's disease (PD). To this end, 20 participants who accompanied patients with PD to a training organized by Parkinson Patients Support Organization-Ethiopia (PPSO-E) provided the data required. Analysis of the data produced several themes such as delay in PD diagnosis and intervention, differing reactions to PD diagnosis, toughness of caring for PD patients, community's limited understanding and distortion of PD, lack of specific name and clear expression for PD in local languages, lack of sufficient support to the caregivers, caregivers' compassion and patient's courageousness, and shortage and expensiveness of PD prescriptions. The themes produced have been discussed in light of existing literature. Based on the findings of this research, recommendations were forwarded and direction for future research was indicated.

Title: Systematic Review of Behavioral Therapy to Improve Swallowing Functions of Patients With Parkinson's Disease.

Citation: Gastroenterology Nursing; Jan 2019; vol. 42 (no. 1); p. 65-78

Author(s): Park, Myung Sook; Choi, Jin Yi; Song, Young-Jin; Choi, Heejung; Park, Eun-Jun; Ji, Eun Sun

Abstract: Decreased swallowing function is a common and main cause of malnutrition and aspiration pneumonia in patients with Parkinson's disease. The aims of this systematic review were to summarize and qualitatively analyze the studies that have been published on behavioral therapies for improving swallowing functions in patients with Parkinson's disease. Studies published from January 2000 to December 2015 were identified via electronic database searches using Ovid-MEDLINE, Ovid-EMBASE, the Cochrane Library, and 8 Korean databases. Two reviewers independently evaluated the studies using inclusion criteria. Nine studies were included, of which 6 evaluated rehabilitation technique studies and 3 evaluated compensatory strategies. The 9 studies were evaluated qualitatively using a methodology checklist of the Scottish Intercollegiate Guideline Network, according to which all of the studies had acceptable quality. The available data on the effects of rehabilitation

techniques and compensatory strategies remain insufficient. Further randomized controlled studies should be done to investigate the effect of behavioral therapy on improving swallowing functions in patients with Parkinson's disease.

Title: Stem cell-based therapy for Parkinson's disease with a focus on human endometrium-derived mesenchymal stem cells.

Citation: Journal of cellular physiology; Feb 2019; vol. 234 (no. 2); p. 1326-1335

Author(s): Bagheri-Mohammadi, Saeid; Karimian, Mohammad; Alani, Behrang; Verdi, Javad; Tehrani, Rana Moradian; Nouredini, Mahdi

Abstract: Parkinson's disease (PD) as an increasing clinical syndrome is a multifunctional impairment with systemic involvement. At present, therapeutic approaches such as L-3,4-dihydroxy-phenylalanine replacement therapy, dopaminergic agonist administration, and neurosurgical treatment intend to relieve PD symptoms which are palliative and incompetent in counteracting PD progression. These mentioned therapies have not been able to replace the lost cells and they could not effectively slow down the relentless neurodegenerative process. Till now, there is a lack of eligible treatment for PD, and stem cells therapy recently has been considered for PD treatment. In this review, we demonstrate how human stem cell technology especially human endometrium-derived stem cells have made advancement as a therapeutic source for PD compared with other treatments.

Title: Inflammatory bowel disease increases the risk of Parkinson's disease: a Danish nationwide cohort study 1977-2014.

Citation: Gut; Jan 2019; vol. 68 (no. 1); p. 18-24

Author(s): Villumsen, Marie; Aznar, Susana; Pakkenberg, Bente; Jess, Tine; Brudek, Tomasz

Objective: Intestinal inflammation has been suggested to play a role in development of Parkinson's disease (PD) and multiple system atrophy (MSA). To test the hypothesis that IBD is associated with risk of PD and MSA, we performed a nationwide population-based cohort study.

Design: The cohort consisted of all individuals diagnosed with IBD in Denmark during 1977-2014 (n=76 477) and non-IBD individuals from the general population, who were comparable in terms of gender, age and vital status (n=7 548 259). All cohort members were followed from IBD diagnosis/index date to occurrence of PD and MSA (according to the Danish National Patient Register).

Results: Patients with IBD had a 22% increased risk of PD as compared with non-IBD individuals (HR=1.22; 95% CI 1.09 to 1.35). The increased risk was present independently of age at IBD diagnosis, gender or length of follow-up. The overall incidence of MSA was low in our study, and the regression analysis suggested a tendency towards higher risk of developing MSA in patients with IBD as compared with non-IBD individuals (HR=1.41; 95% CI 0.82 to 2.44). Estimates were similar for women and men. The increased risk of parkinsonism was significantly higher among patients with UC (HR=1.35; 95% CI 1.20 to 1.52) and not significantly different among patients with Crohn's disease (HR=1.12; 95% CI 0.89 to 1.40).

Conclusions: This nationwide, unselected, cohort study shows a significant association between IBD and later occurrence of PD, which is consistent with recent basic scientific findings of a potential role of GI inflammation in development of parkinsonian disorders.

Title: Management of neurogenic bladder in patients with Parkinson's disease: A systematic review.

Citation: Neurourology and urodynamics; Jan 2019; vol. 38 (no. 1); p. 31-62

Author(s): Hajebrahimi, Sakineh; Chapple, Christopher R; Pashazadeh, Fariba; Salehi-Pourmehr, Hanieh

Aims: To assess the different treatment methods in management of neurogenic bladder (NGB) in patients with Parkinson's disease (PD).METHODSA systematic search was performed in Cochrane library, EMBASE, Proquest, Clinicaltrial.gov, WHO, Google Scholar, MEDLINE via PubMed, Ovid, ongoing trials registers, and conference proceedings in November 11, 2017. All randomized controlled trials (RCTs) or quasi-RCTs comparing any treatment method for management of NGB in patients with PD were included. The titles and abstracts of all identified studies were evaluated independently by two investigators. Once all of the potential related articles were retrieved, each author separately evaluated the full text of each article and the quality of the methodology of the selected studies using the Cochrane appraisal risk of bias checklist and then the data about the patient's outcomes was extracted. We registered the title in Joanna Briggs Institute (JBI) that is available in http://joannabriggs.org/research/registered_titles.aspx.

Results: We included 41 RCTs or quasi-RCTs or three observational study with a total of 1063 patients that evaluated pharmacological, neurosurgical, botulinum toxin, electrical neuromodulation, and behavioral therapy effects on NGB. Among the included studies only solifenacin succinate double-blind, randomized, placebo-controlled study was assessed as low risk of bias, and treatment led to an improvement in urinary incontinence.

Conclusions: Although several interventions are available for treatment NGB in patients with PD, at present there is little or no evidence that treatment improves patient outcomes in this population. Additional large, well designed, randomized studies with improved methodology and reporting focused on patient-centered outcomes are needed.

Title: Being limited by Parkinson's disease and struggling to keep up exercising; is the group the glue?

Citation: Disability and rehabilitation; Jan 2019 ; p. 1-5

Author(s): Claesson, Ingrid M; Ståhle, Agneta; Johansson, Sverker

Background: People with Parkinson's disease find that exercise helps to improve their physical performance. However, when performed in a group, they also tend to appreciate each other's company.

Purpose: After people with Parkinson's disease participated in a community-based group balance exercise program, our aims were to explore the participants' general attitude to their balance ability and exercise, and specifically their experiences of participating in a group exercise.

Materials And Methods: Informants were people living with Parkinson's disease at an early stage (n = 15) who had participated in a community-based "Somatosensory Focused Balance Training without Cues." Each informant took part in one face-to-face interview. The interviews were transcribed, according to content analysis, coded independently by two researchers and triangulated together with a third experienced researcher. Categories and themes were derived in consensus.

Results: The participants felt limited by their body. They agreed that the group balance exercise program did help with their balance control. Moreover, the vast majority found that the group context implied a positive social contribution to their lives and to their ability to cope with living with the disease.

Conclusion: Group balance exercise might constitute a context with potential to improve quality of life for people with Parkinson's disease, not only by improving balance control, but also contributing to social connections, fellowship and the exchange of mutual experiences. Implications for rehabilitation Group-based exercise in early Parkinson seems to add more than just the physical effects of training, since it also gives a platform for meeting social and emotional needs, as well as addressing physical ability. The group dynamics and the support of peers seem to promote a positive attitude to life and enable people to learn coping strategies from each other. Community-based exercise groups for people with early Parkinson seem to be a way to get out in society and regain a feeling of being part of society. Due to body limits, people with Parkinson's disease must struggle daily, already at an early stage of their disease; this stresses the need to begin rehabilitation early.

Title: Exercise and Parkinson Disease: Comparing Tango, Treadmill, and Stretching.

Citation: Journal of neurologic physical therapy : JNPT; Jan 2019; vol. 43 (no. 1); p. 26-32

Author(s): Rawson, Kerri S; McNeely, Marie E; Duncan, Ryan P; Pickett, Kristen A; Perlmutter, Joel S; Earhart, Gammon M

Background and Purpose: Impaired gait, balance, and motor function are common in Parkinson disease (PD) and may lead to falls and injuries. Different forms of exercise improve motor function in persons with PD, but determining which form of exercise is most effective requires a direct comparison of various approaches. In this prospective, controlled trial, we evaluated the impact of tango, treadmill walking, and stretching on gait, balance, motor function, and quality of life. We hypothesized tango and treadmill would improve forward walking and motor symptom severity, and tango would also improve backward walking, balance, and quality of life.

Methods: Ninety-six participants (age: 67.2 ± 8.9 years, 42% female) with mild to moderate idiopathic PD were serially assigned to tango, treadmill walking, or stretching (active control group) and attended 1-hour classes twice weekly for 12 weeks. Assessments occurred OFF anti-PD medication before and after the intervention and at follow-up 12 weeks after the intervention.

Results: Forward velocity and backward velocity improved for the treadmill group from baseline to posttest and improvements persisted at follow-up. Backward velocity and motor functioning improved for the stretching group from baseline to posttest, but results did not persist at follow-up. There were no significant changes in the tango group across time points.

Discussion and Conclusions: Contrary to our hypotheses, only treadmill improved forward walking, while backward walking improved with treadmill and stretching. Future research should examine combinations of exercises with a focus on optimizing dosing and examining whether specific characteristics of people with PD correlate with different types of exercise. Video Abstract available for more insights from the authors (see Video, Supplemental Digital Content 1, available at: <http://links.lww.com/JNPT/A237>).

Title: Postural control, falls and Parkinson's disease: Are fallers more asymmetric than non-fallers?

Citation: Human movement science; Dec 2018; vol. 63 ; p. 129-137

Author(s): Barbieri, Fabio Augusto; Carpenter, Mark; Beretta, Victor Spiandor; Orcioli-Silva, Diego; Simieli, Lucas; Vítório, Rodrigo; Gobbi, Lilian Teresa Bucken

Abstract: Postural control asymmetry is an important aspect of Parkinson's disease (PD) that may be associated with falls. The aim of this study was to compare the postural control asymmetry during postural tasks between fallers and non-fallers in people with PD and neurological healthy age-matched controls (CG). Individuals with idiopathic PD (n = 24) and CG (n = 24) were sub-divided into groups of fallers and non-fallers based on their fall history over the past year. Participants performed blocks of three 30-s trials of quiet standing with feet in a side-by-side and semi-tandem stance position. The center of pressure parameters for each limb were measured and used to calculate the symmetry index. Fallers compared to non-fallers had decreased asymmetry of vertical force in the side-by-side condition. During the tandem-front leg condition, PD non-fallers increased asymmetry of the medial-lateral velocity of sway compared to CG non-fallers. In addition, for the tandem-back leg condition, PD non-fallers increased asymmetry of total displacement and medial-lateral root mean square and mean velocity of sway compared to PD fallers. The results of the study did not support the hypothesis that PD fallers are more asymmetric than PD non-fallers. On the contrary, our results indicated that PD non-fallers had higher postural control asymmetry, especially during the more challenging (semi-tandem standing) postural task.

Title: A randomized controlled study of whether setting specific goals improves the effectiveness of therapy in people with Parkinson's disease.

Citation: Clinical rehabilitation; Dec 2018 ; p. 269215518815217

Author(s): Cabrera-Martos, Irene; Ortiz-Rubio, Araceli; Torres-Sánchez, Irene; Rodríguez-Torres, Janet; López-López, Laura; Valenza, Marie Carmen

Objective: To evaluate the effects of an intervention based on a specific set of goals on goal attainment, manual dexterity, hand grip strength and finger prehension force compared to a standardized approach in patients with Parkinson's disease.

Design: Randomized controlled trial.

Setting: Home-based.

Participants: Fifty patients with a clinical diagnosis of Parkinson's disease acknowledging impaired manual ability were randomized into two groups.

Interventions: Patients in the experimental group (n = 25) were included in an intervention focused on task components that involved goals proposed by participants. Patients in the control group (n = 25) received a standard intervention focused on impairments in range of motion, grasp and manipulation. Home condition and duration (four weeks, twice a week) were similar in both groups.

Main Outcome Measures: The primary outcome measure was goal achievement assessed with the Goal Attainment Scaling. Secondary outcomes were manual dexterity evaluated with the Purdue Pegboard Test and hand grip strength and finger prehension force assessed using a dynamometer.

Results: After four weeks, significant between-group improvement in goal attainment was observed in the experimental group (change 17.36 ± 7.48 vs. 4.03 ± 6.43 , $P < 0.001$).

Compared to the control group, the experimental group also showed a significant improvement ($P < 0.05$) in manual dexterity (postintervention values in the most affected arm 10.55 ± 1.95 vs. 7.33 ± 3.63 pins, $P < 0.001$) and finger prehension force (postintervention values in the most affected arm 8.03 ± 1.93 vs. 6.31 ± 1.85 kg, $P = 0.010$).

Conclusions: Targeting therapy toward specific goals leads to greater changes in arm function than a standardized approach in people with Parkinson's disease.

Title: The effects of dual task gait and balance training in Parkinson's disease: a systematic review.

Citation: Physiotherapy theory and practice; Dec 2018 ; p. 1-9

Author(s): De Freitas, Tatiana Beline; Leite, Paulo Henrique Wong; Doná, Flávia; Pompeu, José Eduardo; Swarowsky, Alessandra; Torriani-Pasin, Camila

Abstract: In patients with Parkinson's disease (PD), the ability to perform simultaneous tasks may be impaired. However, there is no consensus as to whether the strategy of use dual task (DT) should be used with PD patients during gait and balance training because DT can increase the risk of falls. Therefore, it is necessary to critically analyze the relevant studies and evaluate the indications for the use of DT and its effects as a therapeutic strategy. The aim of this systematic review was to explore the effects of DT gait and balance training in individuals with PD. A total of 602 studies were found. After applying the eligibility criteria, seven studies were selected (three clinical trials, one uncontrolled clinical trial, and three pilot studies). Despite the poor methodological quality, the studies indicated the use of DT during gait and balance training may be beneficial for people with mild to moderate PD in compare of single-task or no intervention. The use of DT during training presented benefits related to gait (gait speed, step length and cadence) and balance (mediolateral and anteroposterior balance in closed-eyes tests). The current scenario shows that using DT in the training seems not to be harmful and could be part of the rehabilitation of PD patients. Further clinical trials are needed to confirm the findings, and it would be the most importance that these studies stratify individuals with degrees of disease severity to verify the effect of using the DT during training.

Title: Characteristics of Smell Identification Test in Patients With Parkinson Disease.

Citation: Clinical and experimental otorhinolaryngology; Dec 2018

Author(s): Fujio, Hisami; Inokuchi, Go; Tatehara, Shun; Kuroki, Shunsuke; Fukuda, Yuriko; Kowa, Hisamoto; Nibu, Ken-Ichi

Objectives: Parkinson disease (PD) is frequently associated with olfactory disorder at early stage, which is caused by deposition of Lewy bodies emerging from the olfactory bulb to higher olfactory centers. Early detection of olfactory disorder in the patients with PD may lead to the early diagnosis and treatment for this refractory disease.

Methods: Visual analog scale (VAS), Jet Stream Olfactometry, and Japanese smell identification test, Open Essence (OE), were carried out on 39 patients with PD. Thirty-one patients with postviral olfactory disorder (PVOD), which was caused by the olfactory mucosal dysfunction, were also enrolled in this study as control.

Results: There were no significant differences in detection thresholds (2.2 vs. 1.4, $P=0.13$), recognition thresholds (3.9 vs. 3.5, $P=0.39$) and OE (4.8 vs. 4.2, $P=0.47$) between PVOD and PD, while VAS scores of PVOD and PD were significantly different (2.0 and 6.2,

P<0.01). In OE, significant differences were observed in the accuracy rates of menthol (68% vs. 44%, P=0.04) and Indian ink (42% vs. 15%, P=0.01) between PVOD and PD. Of particular interest, patients with PVOD tended to select "no detectable," while patients with PD tended to select wrong alternative other than "no smell detected."

Conclusion: Discrepancy between VAS and OE, and high selected rates of wrong alternative other than "undetectable" in OE might be significant signs of olfactory dysfunction associated with PD.

Title: Multidisciplinary care for people with Parkinson's disease: the new kids on the block!

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Introduction: Parkinson's disease (PD) is a chronic multisystem disorder that causes a wide variety of motor and non-motor symptoms. Over time, the progressive nature of the disease increases the risk of complications such as falls and loss of independence, having a profound impact on quality of life. The complexity and heterogeneity of symptoms therefore warrant a holistic, multidisciplinary approach. Specific healthcare professionals, e.g. the movement disorders neurologist and the PD nurse specialist, are considered essential members of this multidisciplinary team. However, with our increasing knowledge about different aspects of the disease, other disciplines are also being recognized as important contributors to the healthcare team. Areas covered: The authors describe a selection of these relatively newly-recognized disciplines, including the specialist in vascular medicine, gastroenterologist, pulmonologist, neuro-ophthalmologist, urologist, geriatrician/elderly care physician, palliative care specialist and the dentist. Furthermore, they share the view of a person with PD on how patients and caregivers should be involved in the multidisciplinary team. Finally, they have included a perspective on the new role of the movement disorder neurologist, with care delivery via "tele-neurology". Expert commentary: Increased awareness about the potential role of these 'new' professionals will further improve disease management and quality of life of PD patients.

Sources Used:

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

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