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Parkinson’s Disease Current Awareness Bulletin

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Title: Effects of a low-resistance, interval bicycling intervention in Parkinson's Disease.

Citation: Physiotherapy theory and practice; Aug 2017 ; p. 1-8

Author(s): Uygur, Mehmet; Bellumori, Maria; Knight, Christopher A

Abstract: Previous studies have shown that people with Parkinson's disease (PD) benefit from a variety of exercise modalities with respect to symptom management and function. Among the possible exercise modalities, speedwork has been identified as a promising strategy, with direct implications for the rate and amplitude of nervous system involvement. Considering that previous speed-based exercise for PD has often been equipment, personnel and/or facility dependent, and often time intensive, our purpose was to develop a population-specific exercise program that could be self-administered with equipment that is readily found in fitness centers or perhaps the home. Fourteen individuals with PD (Hoehn-Yahr (H-Y) stage of 3.0 or less) participated in twelve 30-min sessions of low-resistance interval training on a stationary recumbent bicycle. Motor examination section of the Unified Parkinson's Disease Rating Scale (UPDRS), 10-meter walk (10mW), timed-up-and-go (TUG), functional reach, four-square step test (4SST), nine-hole peg test (9HPT) and simple reaction time scores all exhibited significant improvements ($p < 0.05$). These results add further support to the practice of speedwork for people with PD and outline a population-amenable program with high feasibility.

Title: A Guideline for Parkinson's Disease Nurse Specialists, with Recommendations for Clinical Practice.

Citation: Journal of Parkinson's disease; Aug 2017

Author(s): Lennaerts, Herma; Groot, Marieke; Rood, Berna; Gilissen, Koen; Tulp, Hella; van Wensen, Erik; Munneke, Marten; van Laar, Teus; Bloem, Bastiaan R

Background: Parkinson's Disease Nurse Specialists (PDNS) play an important role in the care for patients with Parkinson's disease (PD) and their caregivers. Until now, there were no nursing guidelines in PD, and interventions were based solely on daily clinical practice because there is no evidence to support the merits of nursing interventions. Consequently, there is little uniformity in current care delivery.

Objective: Developing a guideline for PDNS.

Methods: We developed a guideline based on a questionnaire among PDNS and a literature review, supplemented with expert opinion plus the input of patients and caregivers. The questionnaire was filled in by 97 PDNS and 51 generic nurses with knowledge of PD to identify barriers in PD nursing care. Subsequently, we did a systematic literature search and transformed these sources of information into practice recommendations, which were developed according to international standards for guideline development.

Results: Based on the results of the questionnaire we identified seven specific core areas: defining the role of PDNS in terms of caseload, education, competences and care coordination; medication adherence; provision of information and education; coping; caregiver support; urogenital function; and orthostatic hypotension. The systematic literature search identified 186 studies, of which 33 studies were finally analyzed. Furthermore, we developed practice recommendations based on good clinical practice for the following areas:

self-care, mental functioning, mobility, nutrition, sexuality, work, sleep, palliative care and complementary (integrative) care.

Conclusion: These guidelines provide ground to harmonize care delivery by PDNS in clinical practice, and offer a foundation for future research.

Title: Facial emotion decoding in patients with Parkinson's disease.

Citation: The International journal of neuroscience; Aug 2017 ; p. 1-13

Author(s): De Risi, Marco; Gennaro, Giancarlo Di; Picardi, Angelo; Casciato, Sara; Grammaldo, Liliana G; D'Aniello, Alfredo; Lanni, Deborah; Meletti, Stefano; Modugno, Nicola

Purpose: In line with the growing attention on non-motor symptoms and disturbance of affective and emotional processing in Parkinson's disease, we aimed to study different aspects of facial emotion expression evaluation in a group of PD without cognitive decline in treatment with common antiparkinsonian drugs, matched for sex, age, and education with healthy subjects.

Materials and Methods: The study was conducted on 30 patients (13 male; mean age: 63.3±6.7; mean age of disease onset: 56.5±7.1; mean duration of the disease: 6.7±2.6) with a diagnosis of PD and receiving dopaminergic therapy, as compared with 30 healthy controls. Different tasks of facial expression evaluation were used. All patients were assessed for neuropsychological and psychological profiles during optimized medication-on condition.

Results: The total number of errors in facial emotion recognition task is higher ($p < 0.001$) in patients than controls and it is due to errors in identifying sadness ($p < 0.001$), anger ($p = 0.01$) and fear ($p < 0.001$). No differences in the total amount of activation, valence and intensity ratings were found. The difference between patients and controls in ER appears to be independent by the severity of depressive symptoms.

Conclusions: The present study provides further evidence of altered non-verbal emotional information processing in PD patients, suggesting that nigrostriatal dopaminergic depletion leads also to emotional information processing dysfunction. From a clinical point of view, the consequences of these emotional encoding disturbances in daily living and their relationship to mood and behavioral disorders such as anxiety and apathy remain to be clarified.

Title: The efficacy and feasibility of aquatic physiotherapy for people with Parkinson's disease: a systematic review.

Citation: Disability and rehabilitation; Aug 2017 ; p. 1-10

Author(s): Terrens, Aan Fleur; Soh, Sze-Ee; Morgan, Prue Elizabeth

Purpose: To critically evaluate the literature regarding the efficacy and feasibility of aquatic physiotherapy in people with Parkinson's disease/

Method: Relevant studies were identified through searches in nine health-related databases. Two independent reviewers assessed study quality using either the PEDro scale or a customised tool for safety and feasibility.

Results: Database searches yielded 88 articles, of which 10 met the inclusion criteria. Studies varied greatly in methodology, quality, interventions and outcome measures. Study quality was generally low in items reporting on safety precautions, adverse events, attrition, and adherence. Results suggest that aquatic physiotherapy may have a positive effect on motor symptoms, quality of life and balance.

Conclusions: Aquatic physiotherapy may improve aspects of motor performance, quality of life and balance in people with Parkinson's disease, however, it remains unclear whether it is a safe and feasible treatment modality. The development of standardised outcome measures for people with Parkinson's disease (unified Parkinson's disease rating scale and Parkinson's disease questionnaire-39) would aid study comparability and validate study outcomes. As safety criteria was grossly underreported, guidelines for mandatory reporting of safety criteria are essential to make conclusions regarding the feasibility of aquatic physiotherapy for people with Parkinson's disease. Implications for Rehabilitation Aquatic physiotherapy may be a beneficial treatment modality for people with Parkinson's disease. A minimum data set that includes the unified Parkinson's disease rating scale and Parkinson's disease questionnaire 39 is required to aid future meta-analysis and to allow more definitive conclusions to be made regarding aquatic physiotherapy for people with Parkinson's disease. People with Parkinson's disease are a vulnerable population, where safety within an aquatic physiotherapy program needs to be well documented and addressed.

Title: Present and future selves in Parkinson's disease.

Citation: Neurocase; Aug 2017; p. 1-10

Author(s): Ernst, Alexandra; Allen, Joanne; Dubourg, Lydia; Souchay, Céline

Abstract: The study of the self in neuropsychological patients raises not only theoretical questions on the relationships between the self, autobiographical memory (AM), and episodic future thinking but also clinical issues for patients' daily life and care. We addressed this issue in Parkinson's disease patients for whom AM and future thinking impairments have been documented. All patients and controls generated and dated up past and future self-images and provided associated past and future events. Our findings suggest a subtle pattern of preservation/impairment of different dimensions (quantitative and qualitative) of self-images, which rely partially on the episodic quality of past and future events.

Title: Two hundred years since James Parkinson's essay on the shaking palsy-Have we made progress? Insights from the James Parkinson's 200 years course held in London, March 2017.

Citation: Movement disorders : official journal of the Movement Disorder Society; Aug 2017

Author(s): Chaudhuri, K Ray; Jenner, Peter

Title: Beliefs About Use of Complementary Health Approaches for Parkinson's Disease.

Citation: Holistic Nursing Practice; Sep 2017; vol. 31 (no. 5); p. 290-294

Author(s): Ju Young Shin; Pohlig, Ryan T.; Habermann, Barbara

Abstract: Parkinson's disease (PD) is the second most common neurodegenerative disorder in the United States, which requires ongoing medication therapy. Despite the high prevalence of complementary health approaches (CHA) being used among people with PD in several countries, little is known about the perceived effectiveness, safety, and risk related to use of CHA. The purpose of this study was to describe CHA users' beliefs about the effectiveness, safety, and risk of CHA. A subsample (n = 70) of participants who reported using CHA and who completed all 12 items of the section of participants' beliefs were taken from a larger study (n = 143) that described the proportion of individuals who used CHA to manage PD symptoms. Participants reported that CHAs are somewhat effective to control or manage PD symptoms and necessary for PD management. However, they disagreed on possible adverse effects of CHAs and their potential interactions with prescription medications. Participants were willing to share their CHA use with their doctors and/or nurses and had a neutral response to the costs of CHA. More scientific evidence on effectiveness and safety/risk of CHA is needed to assist individuals' informed decision about using CHA and allocation of their health care spending. Nurses and other health care professionals need to be aware of CHA users' beliefs about CHA used for PD and of the need for provision of adequate information and resources, including locating qualified CHA practitioners or databases of CHA.

Title: The involvement of people with Parkinson's in designing a study of the lived experience of anxiety.

Citation: British Journal of Occupational Therapy; Aug 2017; vol. 80 (no. 8); p. 494-501

Author(s): Lovegrove, Christopher J.; Bannigan, Katrina; Cheeseman, Debbie; Latour, Jos M.

Introduction: Anxiety is a common non-motor symptom of Parkinson's and is an important consideration for occupational therapists working with this population. Little is known about how people with Parkinson's experience anxiety. A pragmatic inquiry framework and inductive approach were used to perform a patient and public consultation round to inform future occupational therapy research exploring anxiety in people with Parkinson's.

Method: Seven telephone and two Skype interviews were conducted with people with Parkinson's, who were accessed and recruited through the charity Parkinson's UK. They were selected on the basis of their previous experience and training to participate in a consultation exercise. Thematic analysis was used to develop codes using an inductive approach.

Findings: Three key themes emerged: experiences of anxiety in Parkinson's; coping with anxiety in Parkinson's; and considerations for future research. These include timing with regards to medication 'wearing-off' phenomena, easy access to medications, and providing a safe, sensitive research environment. Occupational therapists need to take these findings into account when designing intervention studies.

Conclusion: This patient and public involvement consultation round proved valuable and the participants' contributions will directly improve the design of future occupational therapy research exploring the lived experience of anxiety for people with Parkinson's.

Title: Resistance Training Improves Sleep Quality In Subjects With Moderate Parkinson's Disease.

Citaiton: Journal of Strength & Conditioning Research (Lippincott Williams & Wilkins); Aug 2017; vol. 31 (no. 8); p. 2270-2277

Author(s): Silva-Batista, Carla; De Brito, Leandro C.; Corcos, Daniel M.; Roschel, Hamilton; De Mello, Marco T.; Piemonte, Maria E. P.; Tricoli, Valmor; Ugrinowitsch, Carlos

Abstract: The objectives of this study were to test if 12 weeks of progressive resistance training (RT) improves sleep quality and muscle strength in subjects with moderate

Parkinson's disease (PD) and if sleep quality values of subjects with moderate PD are closer to those of age-matched healthy controls (HC) at post-training. This was a randomized controlled trial conducted between March 2013 and September 2014. Twenty-two subjects with moderate PD were randomly assigned to a non-exercising control group (n = 11) or an RT group (n = 11). Thirty-one HC were not randomized to any group. The RT group performed a RT program twice a week for 12 weeks, whereas the control group made no change to their weekly routine. For subjects with PD, sleep quality (i.e., Pittsburgh Sleep Quality Index [PSQI]) and knee-extensor peak torque were assessed before and after 12 weeks of intervention; for HC, these outcomes were assessed at pretest only. There were differences between RT and control groups in PSQI scores, PSQI subscores(i.e., subjective sleep quality and daytime dysfunction), and knee-extensor peak torque at posttraining ($p \leq 0.05$). After RT, the average subjects with PD showed lower (i.e., improved) PSQI scores than the average HC ($p \leq 0.05$). A negative association was observed between changes in PSQI scores and changes in kneeextensor peak torque at posttraining ($r = 20.58$, $p = 0.028$). No adverse events were reported. The RT is recommended as an adjunct therapeutic method for improving sleep quality of subjects with moderate PD and moving these levels to those observed in HC.

Title: Caring for patients with Parkinson's disease in general hospital settings.

Citation: Nursing Older People; Jun 2017; vol. 29 (no. 5); p. 30-37

Author(s): Queen, Vicky

Abstract: Parkinson's disease (PD) is a common progressive neurological condition. There are 127,000 people with the disease in the UK, that is, one in every 500 of the population. In 2014-15 there were 14,000 hospital admissions of people with PD in England. However, PD is often not the primary cause of admission. Urinary tract infections and pneumonia, for example, are frequent causes of hospital admission for people with PD. Therefore, nurses on general medical and surgical wards will often care for people with PD. This article aims to provide an update on PD and explore the nurse's role in assessment and provision of safe and effective care for patients with PD in acute hospital settings.

Title: Air Pollution and Risk of Parkinson's Disease in a Large Prospective Study of Men.

Citation: Environmental Health Perspectives; Aug 2017; vol. 125; p. 1-7

Author(s): Palacios, Natalia; Fitzgerald, Kathryn C.; Hart, Jaime E.; Weisskopf, Marc; Schwarzschild, Michael A.; Ascherio, Alberto; Laden, Francine

Background: Exposure to air pollution has been implicated in a number of adverse health outcomes, and the effect of particulate matter (PM) on the brain is beginning to be recognized.

Objectives: We aimed to examine whether exposure to PM air pollution is related to risk of Parkinson's disease (PD) in the Health Professionals Follow-up Study (HPFS), a large prospective cohort of U.S. men.

Methods: We prospectively followed 50,352 men in the HPFS, a large prospective cohort of U.S. men, and identified 550 incident PD cases. Cumulative average exposure to various size fractions of PM [PM_{10} (≤10 μm microns in diameter), $PM_{2:5}$ (≤2:5 μm in diameter), and $PM_{2:5-10}$ (between 2.5 and 10 μm in diameter)] up to 2 years before the onset of PD was estimated using a spatiotemporal model by linking each participant's place of residence throughout the study with location-specific PM levels. We used multivariable Cox proportional hazards models to independently estimate the risk of PD associated with each size fraction of PM.

Results: In models adjusted for age, smoking, region, and population density, we did not observe statistically significant associations between exposure to PM and PD risk. In analyses considering cumulative average PM exposure, the comparing the top to the bottom quintile of PM exposure was 0.85 [95% confidence interval (CI): (0.63, 1.15)] for PM 10, 0.97 [95% CI: (0.72, 1.32)] for PM2:5, and 0.88 [95% CI: (0.64, 1.22)] for hazard ratio (HR) PM2:5-10. The results did not change markedly when restricted to men who did not move during the study or when stratified by smoking status or population density.

Conclusions: In this study, we found no evidence that exposure to air pollution is a risk factor for PD in men.

Title: Old and new challenges in Parkinson's disease therapeutics.

Citation: Progress in neurobiology; Sep 2017; vol. 156; p. 69-89

Author(s): Pires, Ana O; Teixeira, F G; Mendes-Pinheiro, B; Serra, Sofia C; Sousa, Nuno; Salgado, António J

Abstract: Parkinson's disease (PD) is a neurodegenerative disorder characterized by the degeneration of dopaminergic neurons and/or loss od neuronal projections, in several dopaminergic networks. Current treatments for idiopathic PD rely mainly on the use of pharmacologic agents to improve motor symptomatology of PD patients. Nevertheless, so far PD remains an incurable disease. Therefore, it is of utmost importance to establish new therapeutic strategies for PD treatment. Over the last 20 years, several molecular, gene and cell/stem-cell therapeutic approaches have been developed with the aim of counteracting or retarding PD progression. The scope of this review is to provide an overview of PD related therapies and major breakthroughs achieved within this field. In order to do so, this review will start by focusing on PD characterization and current treatment options covering thereafter molecular, gene and cell/stem cell-based therapies that are currently being studied in animal models of PD or have recently been tested in clinical trials. Among stem cell-based therapies, those using MSCs as possible disease modifying agents for PD therapy and, specifically, the MSCs secretome contribution to meet the clinical challenge of counteracting or retarding PD progression, will be more deeply explored.

Title: Freezing of gait is associated with cognitive impairment in patients with Parkinson disease.

Citation: Neuroscience letters; Aug 2017; vol. 656 ; p. 126-130

Author(s): Yao, Zhiwen; Shao, Yuan; Han, Xiang

Objective: To explore whether the cognitive impairment is correlated with freezing of gait (FOG) in patients with Parkinson disease (PD).

Methods: A total of 186 patients with Parkinson disease (104 patients with FOG and 82 patients with no clinical history of freezing behavior) and 125 healthy individuals were selected for this study. Neuropsychological assessments, including the scales for outcomes in Parkinson disease cognition, unified Parkinson's disease rating scale, and Hamilton depression/anxiety rating scale etc., were applied to evaluate the patients'cognitive functioning.

Results: We found that the scores of Unified Parkinson's Disease Rating Scale (UPDRS) were significantly higher among PD patients with FOG, compared with non-FOG group. We also showed that Mini-Mental State Examination score (MMSE) was lower among subjects with FOG than in patients without FOG. Patients with FOG displayed lower Scales for OUTCOMES: in Parkinson's Disease Cognition (SCOPA-COG) score than non-FOG patients. In addition, significant higher Hamilton Anxiety Rating Scale (HAMD) scores were found in patients with FOG than patients without FOG. Moreover, disease duration, stage of the disease, the severity of motor symptom, increased depressive and anxiety complaints measured by FOG questionnaire were significantly associated with severity of FOG. Meanwhile, we also found that the score of Freezing of Gait Questionnaire (FOGQ) score was negatively correlated with MMSE.

Conclusion: Our results demonstrated that FOG is related to impaired cognitive functions in PD patients with FOG. The understanding of impaired cognitive functions in PD patients with FOG can provide evidences for possible therapeutic interventions.

Title: Subjective and objective halitosis among patients with Parkinson's disease.

Citation: Gerodontology; Aug 2017

Author(s): Barbe, Anna Greta; Deutscher, Deborah H C; Derman, Sonja H M; Hellmich, Martin; Noack, Michael J

Objectives: Parkinson's disease (PD) affects oral health, but prevalence of subjective and objective halitosis and the influence of hyposalivation remain unclear. We aimed to explore whether patients with PD suffer from halitosis and to define correlations between halitosis and hyposalivation. We hypothesised that patients with PD suffer more often from halitosis compared to healthy controls, influenced by dry mouth.

Materials and Methods: Subjective (halitosis, xerostomia visual analogue scale [VAS], short German Oral Health Impact Profile [OHIPG]-14) and objective scales (e.g., organoleptic score, volatile sulphur compounds [VSCs], stimulated whole saliva [SWS]) were assessed from 26 patients with PD and 26 healthy controls.

Results: The mean organoleptic score was 0.7 (SD: 0.7) in all patients, and VSCs were either comparable or significantly lower (dimethyl sulphide, $P = .010$) in PD patients compared with controls, yet more patients with PD perceived halitosis to be stronger (77% vs 54%, respectively; $P = .059$). Dry mouth was significantly more likely in patients with PD than controls: mean xerostomia VAS 4 (SD: 2) vs 1 (SD: 2), $P = .010$; SWS 0.4 (SD: 0.4) vs 0.7 (SD: 0.6) mL/min, $P < .05$); SWS did not correlate with subjective or objective halitosis. Oral health-related quality of life (OHRQoL) was lower in patients with PD than controls (mean OHIPG-14 score 12 (SD: 0.2) vs 5 (SD: 7.0), respectively; $P < .05$).

Conclusions: Patients with PD suffer from subjective and objective halitosis, dry mouth and impaired OHRQoL. Dry mouth problems do not correlate with prevalence or intensity of halitosis.

Title: The diagnostic pathway of Parkinson's disease: a cross-sectional survey study of factors influencing patient dissatisfaction.

Citation: BMC family practice; Aug 2017; vol. 18 (no. 1); p. 83

Author(s): Plouvier, Annette O A; Olde Hartman, Tim C; de Bont, Olga A; Maandag, Sjoerd; Bloem, Bastiaan R; van Weel, Chris; Lagro-Janssen, Antoine L M

Background: The diagnostic pathway of Parkinson's disease (PD) is often complicated. Experiences during this pathway can affect patients' satisfaction and their confidence and trust in healthcare providers. Although healthcare providers cannot influence the impact of the diagnosis, they can influence how patients experience the pathway. This study, therefore, aims to provide insight into PD patients' dissatisfaction with the diagnostic pathway and to describe the factors that influence it.

Methods: We carried out a cross-sectional survey study among 902 patient members of the Dutch Parkinson's Disease Association, who were each asked to write an essay about their diagnostic pathway. A coding format was developed to examine the content of these essays. Inter-observer agreement on coding patient dissatisfaction was calculated using Cohen's kappa. The χ2 test and a multivariable logistic regression analysis were performed to assess the relation between dissatisfaction and sex, level of education, duration of the pathway, communication with the general practitioner (GP) and the neurologist, the number of healthcare providers involved, whether or not a second opinion had taken place (including the person who initiated it) and diagnostic delay (taking into consideration who caused the delay according to the patient). A subgroup analysis was performed to gain insight into sex-related differences.

Results: Of all patients, 16.4% explicitly described they were dissatisfied with the diagnostic pathway, whereas 4.8% were very satisfied. The inter-observer agreement on coding dissatisfaction was κ = 0.82. The chance of dissatisfaction increased with a lower level of education, the involvement of more than one additional healthcare provider, a second opinion initiated by the patient and delay caused by a healthcare provider. When only the GP and the neurologist were involved, women were more likely to be dissatisfied than men.

Conclusions: PD patients' dissatisfaction with the diagnostic pathway is related to a lower level of education, a second opinion initiated by the patient and experienced diagnostic delay. GPs can positively influence patients' experiences if they are aware of these risk factors for dissatisfaction and pay extra attention to communication and shared decision making. This will contribute to a trusting therapeutic relationship that is indispensable with progression of the disease.

Title: Adapted Tango improves aspects of participation in older adults versus individuals with Parkinson's disease.

Citation: Disability & Rehabilitation; Oct 2017; vol. 39 (no. 22); p. 2294-2301

Author(s): Zafar, Manal; Bozzorg, Ariyana; Hackney, Madeleine E.

Purpose: Our aims were to determine (1) the impact of aging versus combined aging and disease on participation and (2) participation before and after a 12-week, Adapted Tango dance intervention (AT) in older adults with and without Parkinson's disease (PD).

Methods: Participant responses to open and closed-ended questions on the Impact on Participation and Autonomy questionnaire (IPA) were recorded before, one-week-after, and three-months after 20 lessons of AT. Twenty-five older individuals with PD and 63 older adults without PD were initially enrolled and assessed, and 44 older adults and 22 individuals with PD finished the program with post-testing.

Results: Thematic analysis revealed major themes of difficulty with mobility, transportation and financial management, feelings of being forced to limit activities, and interest in work or volunteering for both groups at baseline and post-test. At post-test, additional emphasis on resilience in the face of challenges was noted. No differences were noted between groups on the IPA subscales at baseline. Quantitative analysis with a 2 (group)<3 (time) MANOVA revealed a main effect of time ($p<0.001$), with improved Social Life ($p<0.001$), marginally improved Autonomy Indoors ($p=0.073$), and Family Role ($p=0.057$).

Conclusions: Adapted Tango improved aspects of participation for these cohorts of older adults with and without PD.

Title: Effects of an intensive Nordic walking intervention on the balance function and walking ability of individuals with Parkinson's disease: a randomized controlled pilot trial.

Citation: Aging Clinical & Experimental Research; Oct 2017; vol. 29 (no. 5); p. 993-999

Author(s): Bang, Dae-Hyouk; Shin, Won-Seob

Background: Parkinson's disease (PD) is associated with impairment in balance and postural control, accompanied by a progressive reduction in the speed and amplitude of movement.

Aims: The aim of our study was to evaluate the therapeutic effects of Nordic walking on a treadmill on the balance function and walking ability of individuals with PD.

Method: Twenty participants with stage 1-3 PD in the Hoehn and Yahr scale were randomly allocated to the Nordic walking training (NWT) group and treadmill training (TT) group, with ten participants per group. Measured outcomes included: the motor subscale of the Unified Parkinson's Disease Rating Scale (UPDRS-M), the Berg balance scale (BBS), the Timed Up-and-go test (TUG), the 10-meter walk test (10 MWT), and the 6-minute walk test (6 MWT).

Results: Improvement on all outcome measures was identified from pre-to-post intervention for both groups ($p < 0.05$). Post-intervention, there was a significant between-group difference on measured outcomes ($p < 0.05$). The NWT group exhibited greater improvement in the UPDRS-M ($p = 0.006$; 95 % CI 0.825-4.374), BBS ($p = 0.002$; 95 % CI 1.307-5.092), TUG ($p = 0.048$; 95 % CI 0.028-2.582), 10 MWT ($p = 0.047$; 95 % CI 0.108-2.306), and 6 MWT ($p = 0.003$; 95 % CI 20.302-42.097) compared to the TT group.

Conclusions: Our outcomes provide evidence of the therapeutic benefit of Nordic walking on a treadmill to improve balance function and walking ability in individuals with PD.

Title: Effect of an impaired oral stage on swallowing in patients with Parkinson's disease.

Citation: Journal of Oral Rehabilitation; Oct 2017; vol. 44 (no. 10); p. 756-762

Author(s): Wakasugi, Y.; Yamamoto, T.; Oda, C.; Murata, M.; Tohara, H.; Minakuchi, S.

Abstract: We investigated the swallowing function in patients with Parkinson's disease (PD) using deteriorated tongue control because patients with PD frequently exhibit an impaired oral stage of swallowing and the tongue movement affects oral and pharyngeal stage. In total, 201 patients with PD (106 men, 95 women; mean age 70·6 ± 8·0 years; median Hoehn-Yahr Stage III) were studied. The patients swallowed 10 mL of liquid barium under videofluorography, and their oral transit time (OTT) was measured. Based on 20 healthy controls (mean age 70·3 ± 7·8 years) with an OTT + 2 standard deviation ($0{\cdot}89 + 2 \times 0{\cdot}46$) of 1·81 s, the patients with PD were divided into 167 patients with an OTT < 1·81 s and 34 patients with an OTT ≥ 1·81 s. Swallowing function was compared between the groups and assessed using logistic regression analysis. The following factors were significantly associated with oral stage impairment in both groups: tongue-to-palate contact, tongue root-to-posterior pharyngeal wall contact, premature spillage into the pharynx, aspiration and onset of swallowing reflex. Logistic regression analysis showed that tongue root-to-posterior pharyngeal wall contact, onset of swallowing reflex and aspiration were independent factors. PD patients with prolonged OTT displayed poor lingual control and decreased range of motion of the tongue due to bradykinesia and rigidity. Such problems in the oral stage affected the subsequent pharyngeal stage of swallowing with aspiration. Lingual movement in the oral stage thus appears to play an important role in the sequential movement of swallowing in PD.

Title: Dancing for Parkinson Disease: A Randomized Trial of Irish Set Dancing Compared With Usual Care.

Citation: Archives of Physical Medicine & Rehabilitation; Sep 2017; vol. 98 (no. 9); p. 1744-1751

Author(s): Shanahan, Joanne; Morris, Meg E.; Bhriain, Orfhlaith Ni; Volpe, Daniele; Lynch, Tim; Clifford, Amanda M.

Objective: To examine the feasibility of a randomized controlled study design and to explore the benefits of a set dancing intervention compared with usual care.

Design: Randomized controlled design, with participants randomized to Irish set dance classes or a usual care group.

Setting: Community based. Participants Individuals with idiopathic Parkinson disease (PD) (N=90).

Interventions: The dance group attended a 1.5-hour dancing class each week for 10 weeks and undertook a home dance program for 20 minutes, 3 times per week. The usual care group continued with their usual care and daily activities.

Main Outcome Measures: The primary outcome was feasibility, determined by recruitment rates, success of randomization and allocation procedures, attrition, adherence, safety, willingness of participants to be randomized, resource availability, and cost. Secondary outcomes were motor function (motor section of the Unified Parkinson's Disease Rating Scale), quality of life (Parkinson's Disease Questionnaire-39), functional endurance (6-min walk test), and balance (mini-BESTest).

Results Ninety participants were randomized (45 per group). There were no adverse effects or resource constraints. Although adherence to the dancing program was 93.5%, there was >40% attrition in each group. Postintervention, the dance group had greater nonsignificant gains in quality of life than the usual care group. There was a meaningful deterioration in endurance in the usual care group. There were no meaningful changes in other outcomes. The exit questionnaire showed participants enjoyed the classes and would like to continue participation.

Conclusions: For people with mild to moderately severe PD, set dancing is feasible and enjoyable and may improve quality of life.

Title: The complexities of advance care planning in patients with idiopathic Parkinson's disease.

Citation: British Journal of Neuroscience Nursing; Aug 2017; vol. 13 (no. 4); p. 178-185

Author(s): Mace, Clair Zoe

Abstract: The purpose of this article is to review current practice in terms of managing complex issues in the long-term condition of idiopathic Parkinson's disease (IPD). Particular focus will be on the optimum time to have end-of-life discussions and the complications that may be involved in cases of IPD. It will look at the nature of IPD, the different stages of the disease, and the right time for palliative conversations and advance care planning. The range of advanced communication skills needed to have effective conversations will be evaluated, alongside a review of why communication is made more difficult in patients with PD, the impact this has on family members, and the legal and ethical implications, so as to improve practice when making an advance care plan in a patient with IPD.

Title: National randomized controlled trial of virtual house calls for Parkinson disease.

Citation: Neurology; Sep 2017; vol. 89 (no. 11); p. 1152-1161

Author(s): Beck, Christopher A; Beran, Denise B; Biglan, Kevin M; Boyd, Cynthia M; Dorsey, E Ray; Schmidt, Peter N; Simone, Richard; Willis, Allison W; Galifianakis, Nicholas B; Katz, Maya; Tanner, Caroline M; Dodenhoff, Kristen; Aldred, Jason; Carter, Julie; Fraser, Andrew; Jimenez-Shahed, Joohi; Hunter, Christine; Spindler, Meredith; Reichwein, Suzanne; Mari, Zoltan; Dunlop, Becky; Morgan, John C; McLane, Dedi; Hickey, Patrick; Gauger, Lisa; Richard, Irene Hegeman; Mejia, Nicte I; Bwala, Grace; Nance, Martha; Shih, Ludy C; Singer, Carlos; Vargas-Parra, Silvia; Zadikoff, Cindy; Okon, Natalia; Feigin, Andrew; Ayan, Jean; Vaughan, Christina; Pahwa, Rajesh; Dhall, Rohit; Hassan, Anhar; DeMello, Steven; Riggare, Sara S; Wicks, Paul; Achey, Meredith A; Elson, Molly J; Goldenthal, Steven; Keenan, H Tait; Korn, Ryan; Schwarz, Heidi; Sharma, Saloni; Stevenson, E Anna; Zhu, William; Connect.Parkinson Investigators

Objective: To determine whether providing remote neurologic care into the homes of people with Parkinson disease (PD) is feasible, beneficial, and valuable.

Methods: In a 1-year randomized controlled trial, we compared usual care to usual care supplemented by 4 virtual visits via video conferencing from a remote specialist into patients' homes. Primary outcome measures were feasibility, as measured by the proportion who completed at least one virtual visit and the proportion of virtual visits completed on time; and efficacy, as measured by the change in the Parkinson's Disease Questionnaire-39, a quality of life scale. Secondary outcomes included quality of care, caregiver burden, and time and travel savings.

Results: A total of 927 individuals indicated interest, 210 were enrolled, and 195 were randomized. Participants had recently seen a specialist (73%) and were largely college-educated (73%) and white (96%). Ninety-five (98% of the intervention group) completed at least one virtual visit, and 91% of 388 virtual visits were completed. Quality of life did not improve in those receiving virtual house calls (0.3 points worse on a 100-point scale; 95% confidence interval [CI] -2.0 to 2.7 points; p = 0.78) nor did quality of care or caregiver burden. Each virtual house call saved patients a median of 88 minutes (95% CI 70-120; p < 0.0001) and 38 miles per visit (95% CI 36-56; p < 0.0001).

Conclusions: Providing remote neurologic care directly into the homes of people with PD was feasible and was neither more nor less efficacious than usual in-person care. Virtual house calls generated great interest and provided substantial convenience.

Clinicaltrialsgov Identifier: NCT02038959.

Classification Of Evidence: This study provides Class III evidence that for patients with PD, virtual house calls from a neurologist are feasible and do not significantly change quality of life compared to in-person visits. The study is rated Class III because it was not possible to mask patients to visit type.

Title: Automatic Classification of Tremor Severity in Parkinson's Disease Using a Wearable Device.

Citation: Sensors (Basel, Switzerland); Sep 2017; vol. 17 (no. 9)

Author(s): Jeon, Hyoseon; Lee, Woongwoo; Park, Hyeyoung; Lee, Hong Ji; Kim, Sang Kyong; Kim, Han Byul; Jeon, Beomseok; Park, Kwang Suk

Abstract: Although there is clinical demand for new technology that can accurately measure Parkinsonian tremors, automatic scoring of Parkinsonian tremors using machine-learning approaches has not yet been employed. This study aims to fill this gap by proposing machine-learning algorithms as a way to predict the Unified Parkinson's Disease Rating Scale (UPDRS), which are similar to how neurologists rate scores in actual clinical practice. In this study, the tremor signals of 85 patients with Parkinson's disease (PD) were measured using a wrist-watch-type wearable device consisting of an accelerometer and a gyroscope. The displacement and angle signals were calculated from the measured acceleration and angular velocity, and the acceleration, angular velocity, displacement, and angle signals were used for analysis. Nineteen features were extracted from each signal, and the pairwise correlation strategy was used to reduce the number of feature dimensions. With the selected features, a decision tree (DT), support vector machine (SVM), discriminant analysis (DA), random forest (RF), and k-nearest-neighbor (kNN) algorithm were explored for automatic scoring of the Parkinsonian tremor severity. The performance of the employed classifiers was analyzed using accuracy, recall, and precision, and compared to other findings in similar studies. Finally, the limitations and plans for further study are discussed.

Title: More than constipation - bowel symptoms in Parkinson's disease and their connection to gut microbiota.

Citation: European journal of neurology; Sep 2017

Author(s): Mertsalmi, T H; Aho, V T E; Pereira, P A B; Paulin, L; Pekkonen, E; Auvinen, P; Scheperjans, F

Background and Purpose: The majority of Parkinson's disease (PD) patients suffer from gastrointestinal symptoms of which constipation is considered the most prominent. Recently, in addition to constipation, a diagnosis of irritable bowel syndrome (IBS) was also found to be associated with increased PD risk. Gut microbiota alterations have been reported in IBS and recently also in PD. IBS-like bowel symptoms in PD and their possible connection to other non-motor symptoms and faecal microbiota were assessed.

Methods: This case-control study compared 74 PD patients with 75 controls without any signs of parkinsonism or potential premotor symptoms. IBS-like symptoms were assessed using the Rome III questionnaire. The non-motor symptoms were assessed using the Non-Motor Symptoms Questionnaire and Non-Motor Symptom Scale. Faecal microbiota were assessed by pyrosequencing of the V1-V3 regions of the bacterial 16S ribosomal RNA gene.RESULTSSymptoms that were IBS-like were significantly more prevalent in PD patients than in controls (24.3% vs. 5.3%; P = 0.001). Criteria for functional constipation were met by 12.2% of PD patients and 6.7% of controls (P = 0.072). PD patients with IBS-like symptoms had more non-motor symptoms and a lower faecal abundance of Prevotella bacteria than those without IBS-like symptoms.

Conclusion: Our results indicate that PD patients may suffer from colonic dysfunction beyond pure constipation. Therefore, a more comprehensive assessment of bowel symptoms could provide valuable information. The lower abundance of Prevotella bacteria in

PD patients with IBS-like symptoms suggests that the microbiota-gut-brain axis may be implicated in the gastrointestinal dysfunction 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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