

Parkinson's Disease

Current Awareness

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January 2017

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Title: Acute Hospital Admissions of Individuals with a Known Parkinson's Disease Diagnosis in Ireland 2009-2012: A Short Report

Citation: Journal of Parkinson's Disease, 2016, vol./is. 6/4(709-716), 1877-7171;1877-718X (2016)

Author(s): Kelly B., Blake C., Lennon O.

Abstract: Background: The rate of people with Parkinson's disease (PD) is predicted to double by 2030 resulting in an even greater burden to an already struggling Irish health care system. There is a paucity of information regarding hospital utilisation among the PD population in an Irish context. Objective: To examine trends of acute hospital in-patient admissions of patients admitted with a secondary diagnosis of PD between 2009 and 2012 in Ireland. Method: Data concerning patients, aged over and under 65 years with a previously existing diagnosis of Parkinson's Disease were requested from the HIPE database for the years 2009-2012. Primary categories of interest were the top 10 principal diagnoses on admission, the top 10 principal procedures conducted, admission source and route, and final discharge destination. Results: 12,437 discharges were recorded for people with PD over the age of 65 years and 1,223 in those under 65 years in Republic of Ireland between 2009 and 2012. A steady rise in acute hospital admissions was noted in the over 65 group. The number of patients requiring long stay accommodation more than doubled across both age categories from admission to discharge status. The most common reasons for admission in all age ranges were acute lower respiratory infection; disorders of urinary system; pneumonia (organism unspecified); and pneumonitis due to solids and liquids (aspiration pneumonia). Conclusions: This report highlights a worrying trend towards increased rates of hospital admissions for pneumonia and infections for people living with PD in Republic of Ireland. Copyright © 2016 - IOS Press and the authors. All rights reserved.

Title: A process evaluation of a home-based occupational therapy intervention for Parkinson's patients and their caregivers performed alongside a randomized controlled trial.

Citation: Clinical Rehabilitation, 2016, vol./is. 30/12(1186-1199), 02692155

Author(s): Sturkenboom, Ingrid H. W. M., Nijhuis-van der Sanden, Maria W. G., Graff, Maud J. L.

Chronic pain in Parkinson's disease: Frequency, characteristics, independent factors, and relationship with health-related quality of life.

Author(s): Ozturk, Erhan Arif; Gundogdu, Ibrahim; Kocer, Bilge; Comoglu, Selcuk; Cakci, Aytul

Source: Journal of Back & Musculoskeletal Rehabilitation; Jan 2017; vol. 30 (no. 1); p. 101-108

Understanding the Burden and Management of Hallucinations and Delusions Associated With Parkinson's Disease Psychosis.

Source: American Journal of Managed Care; Dec 2016 ; p. 1-8

The experience of being diagnosed with Parkinson's disease.

Author(s): Warren, Emma; Eccles, Fiona; Travers, Vicky; Simpson, Jane

Source: British Journal of Neuroscience Nursing; Dec 2016; vol. 12 (no. 6); p. 288-296

Systematic review of published studies on aquatic exercise for balance in patients with multiple sclerosis, Parkinson's disease, and hemiplegia.

Author(s): Methajarunon, Pichanan; Eitivipart, Chachris; Diver, Claire J.; Foongchomcheay, Anchalee

Source: Hong Kong Physiotherapy Journal; Dec 2016; vol. 35 ; p. 12-20

Title: Reliability and Validity of Force Platform Measures of Balance Impairment in Individuals With Parkinson Disease.

Citation: Physical Therapy, 2016, vol./is. 96/12(1955-1964), 00319023

Author(s): Harro, Cathy C., Marquis, Alicia, Piper, Natasha, Burdis, Chris

Title: Clinical presentation of anxiety in Parkinson's disease: A scoping review

Citation: OTJR Occupation, Participation and Health, 2016, vol./is. 36/3(134-147), 1539-4492 (2016)

Author(s): Lutz S.G., Holmes J.D., Ready E.A., Jenkins M.E., Johnson A.M.

Abstract: Up to 40% of all individuals with Parkinson's disease (PD) are estimated to experience anxiety that interferes with daily functioning. This article describes research regarding the presentation of anxiety in PD and the influence anxiety has on participation in this population. A scoping review identified 1,635 articles, of which 49 met the inclusion criteria. This review identified that anxiety in PD is often associated with a range of clinical correlates related to demographic and clinical characteristics (age, gender, disease stage, duration, progression), motor symptoms (tremor, bradykinesia, dystonia, freezing of gait, symptom severity), treatment-related complications (on/off fluctuations, on with dyskinesia, unpredictable off), and non-motor symptoms (sleep abnormalities, fatigue, cognitive impairment, depression). These findings can be used to increase clinicians' awareness toward the specific clinical correlates linked to anxiety in PD so that mental health concerns can be detected and addressed more readily in practice. Copyright © The Author(s) 2016.

Title: A process evaluation of a home-based occupational therapy intervention for Parkinson's patients and their caregivers performed alongside a randomized controlled trial.

Citation: Clinical Rehabilitation, 2016, vol./is. 30/12(1186-1199), 02692155

Author(s): Sturkenboom, Ingrid H. W. M., Nijhuis-van der Sanden, Maria W. G., Graff, Maud J. L.

Could everyday technology improve access to assessments? A pilot study on the feasibility of screening cognition in people with Parkinson's disease using the Montreal Cognitive Assessment via Internet videoconferencing.

Author(s): Stillerova, Tereza; Liddle, Jacki; Gustafsson, Louise; Lamont, Robyn; Silburn, Peter
Source: Australian Occupational Therapy Journal; Dec 2016; vol. 63 (no. 6); p. 373-380

A process evaluation of a home-based occupational therapy intervention for Parkinson's patients and their caregivers performed alongside a randomized controlled trial.

Author(s): Sturkenboom, Ingrid H. W. M.; Nijhuis-van der Sanden, Maria W. G.; Graff, Maud J. L.
Source: Clinical Rehabilitation; Dec 2016; vol. 30 (no. 12); p. 1186-1199

Relationship Between Voice and Motor Disabilities of Parkinson's Disease.

Author(s): Majdinasab, Fatemeh; Karkheiran, Siamak; Soltani, Majid; Moradi, Negin; Shahidi, Gholamali
Source: Journal of Voice; Nov 2016; vol. 30 (no. 6); p. 768.e17

Polyneuropathy in levodopa-treated Parkinson's patients.

Author(s): Szadejko, Karol; Dziewiatowski, Krzysztof; Szabat, Krzysztof; Robowski, Piotr; Schinwelski, Michał; Sitek, Emilia; Sławek, Jarosław
Source: Journal of the neurological sciences; Dec 2016; vol. 371 ; p. 36-41

Abstract: Recently published studies show that the prevalence of polyneuropathy (PNP) is higher in patients with Parkinson's disease (PD) than in age-matched controls. Its pathogenesis, however is a matter of controversy. The major hypothesis is the toxicity of high concentrations of homocysteine (Hcy) possibly related to levodopa (LD) therapy. The aim of the present study was to determine the prevalence of PNP, independent of other etiologies, and to determine the relationship to demographic and clinical factors in LD-treated Parkinson's patients. A total of 102 patients (51 patients with PD and 51 sex- and age-matched healthy controls) were enrolled in the study. The presence of any risk factors for PNP, ascertained from the history and laboratory tests, was an exclusion criterion. The Toronto Clinical Scoring System (TCSS) was used for clinical assessment of PNP. The objective assessment was based on electroneurography (ENG) studies in which motor nerves (peroneal and tibial nerves) as well as sensory nerves (sural and superficial peroneal nerves) were bilaterally examined. The severity of the disease was determined using the UPDRS scale (Unified Parkinson's Disease Rating Scale) and the Hoehn-Yahr (H-Y) scale. In the PD group, the clinical and neurophysiological indicators of PNP, manifested as a symmetrical and predominantly sensory axonal neuropathy, were more frequent than in the control group and observed in 43.1% vs. 13.7% and 15.7% vs. 2% of subjects respectively. The presence of PNP correlated with age and the severity of PD. Patients with PD and PNP had a higher level of Hcy as compared to PD patients without PNP, however the difference was not statistically significant. The frequency of PNP in PD patients is higher than in controls. The characteristics and discrepancy between the number of patients with clinical and ENG detected PNP may suggest the small fiber

Urinary Incontinence, Incident Parkinsonism, and Parkinson's Disease Pathology in Older Adults.

Author(s): Buchman, Noa M; Leurgans, Sue E; Shah, Raj J; VanderHorst, Veronique; Wilson, Robert S; Bachner, Yaacov G; Tanne, David; Schneider, Julie A; Bennett, David A; Buchman, Aron S

Source: The journals of gerontology. Series A, Biological sciences and medical sciences; Dec 2016

Abstract: To test the hypothesis that urinary incontinence (UI) is associated with incident parkinsonism in older adults. We used data from 2,617 older persons without dementia. Assessment included baseline self-report UI and annual structured exam which assessed parkinsonian signs, motor performances, cognitive function, and self-report disabilities. We used a series of Cox proportional hazards models to examine the association of UI with parkinsonism and adverse health outcomes and a mixed-effect model to examine the association of UI with the annual rate of cognitive decline. In decedents, regression models were used to examine if UI proximate to death was related to postmortem indices of neuropathologies. At baseline, more than 45% of participants reported some degree of UI. Over an average of nearly 8 years of follow-up, UI was associated with incident parkinsonism (hazard ratio [HR] = 1.07, 95% CI = 1.02, 1.12), death (HR = 1.07, 95% CI = 1.03, 1.11), incident ADL disability (HR = 1.11, 95% CI = 1.07, 1.16), and incident mobility disability (HR = 1.07, 95% CI = 1.02, 1.13). UI was not related to incident MCI (HR = 1.02, 95% CI = 0.97, 1.07), incident AD dementia (HR = 1.00, 95% CI = 0.95, 1.05) or to the rate of cognitive decline (Estimate = -.002, standard error = .002, $p = .167$). In 1,024 decedents with brain autopsy, UI proximate to death was related to PD pathology (Lewy body pathology and nigral neuronal loss), but not Alzheimer's disease pathology or other age-related neuropathologies. UI in older adults is associated with incident parkinsonism and may identify older adults at risk for accumulating PD brain pathology. © The Author 2016. Published by Oxford University Press on behalf of The Gerontological Society of America.

Cognitive impairment in Parkinson's disease: impact on quality of life of carers.

Author(s): Lawson, R A; Yarnall, A J; Johnston, F; Duncan, G W; Khoo, T K; Collerton, D; Taylor, J P; Burn, D J; ICICLE-PD study group

Source: International journal of geriatric psychiatry; Dec 2016

Abstract: The quality of life (QoL) of informal caregivers of people with Parkinson's disease (PD) (PwP) can be affected by the caring role. Because of cognitive symptoms and diminished activities of daily living, in addition to the management of motor symptoms, carers of PwP and cognitive impairment may experience increased levels of burden and poorer QoL compared with carers of PwP without cognitive impairment. This study aimed to investigate the impact of cognitive impairment in PD upon QoL of carers. Approximately 36 months after diagnosis, 66 dyadic couples of PwP and carers completed assessments. PwP completed a schedule of neuropsychological assessments and QoL measures; carers of PwP completed demographic questionnaires and assessments of QoL. Factor scores of attention, memory/executive function and global cognition, as derived by principal component analysis, were used to evaluate cognitive domains. Hierarchical regression analysis found lower Montreal Cognitive Assessment was a

significant independent predictor of poorer carer QoL, in addition to number of hours spent caregiving, carer depression and PD motor severity. Attentional deficits accounted for the largest proportion of variance of carer QoL. Carers of PwP and dementia (n = 9) had significantly poorer QoL scores compared with PwP and mild cognitive impairment (n = 18) or normal cognition (n = 39) carers (p < 0.01). Attentional deficits were the strongest predictor of carer QoL compared with other cognitive predictors. Carers for those with PD dementia reported the poorest QoL. Interventions such as respite or cognitive behavioural therapy to improve mood and self-efficacy in carers may improve carer QoL. © 2016 The Authors. International Journal of Geriatric Psychiatry published by John Wiley & Sons, Ltd. © 2016 The Authors. International Journal of Geriatric Psychiatry published by John Wiley & Sons, Ltd.

Exploring the Effects of Using an Oral Appliance to Reduce Movement Dysfunction in an Individual With Parkinson Disease: A Single-Subject Design Study.

Author(s): Lane, Hillary; Rose, Lindsey E; Woodbrey, Megan; Arghavani, David; Lawrence, Michael; Cavanaugh, James T

Source: Journal of neurologic physical therapy : JNPT; Jan 2017; vol. 41 (no. 1); p. 52-58

Abstract: Clinical reports suggest that wearing an oral appliance can improve the gait and balance of an individual with Parkinson disease (PD). Our primary purpose was to systematically explore this effect using a single-subject study design and quantitative motion analysis. Secondly, we sought to examine the quality-of-life outcomes following 1-month of routine oral appliance wear. The participant was a 73-year-old ambulatory man with mid-stage PD. Using an A-B-A design, for which a custom-made oral appliance served as the intervention, kinematic and kinetic data were captured during performance of Four Square Step Test, serpentine walk, and tandem walk tasks. Grip strength was quantified with a dynamometer. Quality-of-life outcomes were collected after 1 month of appliance wear using the Parkinson Disease Questionnaire-39 (PDQ-39). Perceived changes in balance, mobility, and quality of life were captured from the participant using an 11-point Global Rate of Change (GRC) scale. Changes in mobility, postural control, and grip strength during appliance wear were suggestive of reduced movement dysfunction. The PDQ-39 revealed a significant improvement in quality of life, primarily related to increased emotional well-being, decreased stigma, and increased communication. GRC scores indicated a clinically significant improvement in ease of movement in the community (+3), ease of movement during the performance of activities of daily living (+4), and in standing balance while performing activities of daily living (+4). Study findings provided quantitative evidence supporting the effectiveness of oral appliance wear for reducing movement dysfunction in a patient with mid-stage PD. Video Abstract available for more insights from the authors (see Supplemental Digital Content 1, <http://links.lww.com/JNPT/A155>).

The use of acupuncture in patients with Parkinson's disease.

Author(s): Cheng, Fung Kei

Source: Geriatric nursing (New York, N.Y.); Dec 2016

Abstract: Parkinson's disease, a progressive neuro-degeneration of multiple systems damaging motor and non-motor functions, affects individual and societal dimensions negatively. In addition to standard treatments, complementary and alternative medicine has been adopted, in which

acupuncture, a traditional Chinese medical practice by needle penetration at specific stimulation points (acupoints) along the body, indicates positive outcomes in this illness. Apart from offering an overview of using acupuncture in Parkinson's disease, this literature review analyses the effects of acupuncture on Parkinson's-induced physical symptoms and mental problems such as slow movements, stiffness, constipation, and sleep disorders. In light of the 35 reviewed research projects in mainland China, Japan, Korea, Taiwan, and the United States of America, this study reveals the optimization of this approach through combined therapy and its preventive contribution using acupuncture alone. It also suggests research and practical implications that hint at enhancements in medical applications. Copyright © 2016 Elsevier Inc. All rights reserved.

A Cross-sectional Analysis of the Characteristics of Individuals With Parkinson Disease Who Avoid Activities and Participation Due to Fear of Falling.

Author(s): Landers, Merrill R; Lopker, Morgan; Newman, Molly; Gourlie, Russell; Sorensen, Spencer; Vong, Rithea

Source: Journal of neurologic physical therapy : JNPT; Jan 2017; vol. 41 (no. 1); p. 31-42

Abstract: Avoidance behavior can have deleterious consequences on health and quality of life for persons with Parkinson disease (PD); for this reason, it is important to identify potentially mitigable characteristics. We compared the characteristics of individuals with PD who exhibit fear of falling (FOF) avoidance behavior with those who do not. Fifty-nine participants with PD were classified as avoiders ($n = 27$) or nonavoiders ($n = 32$) by using the Fear of Falling Avoidance Behavior Questionnaire and compared across 5 domains: demographic characteristics; PD-specific symptoms (subtype, Movement Disorder Society-Unified Parkinson's Disease Rating Scale [MDS-UPDRS], Hoehn and Yahr Scale, Parkinson's Disease Questionnaire-39 [PDQ-39]); balance and falls (fall history, Berg Balance Scale [BBS], Activities-Specific Balance Confidence [ABC] Scale, Impact of Events Scale, Consequences of Falling Questionnaire [CoFQ]); physical performance (30 Second Sit-to-Stand Test, Timed Up and Go Test, physical activity monitoring); and psychological factors (Zung Anxiety Scale, Beck Depression Inventory [BDI]). There were no differences between avoiders and nonavoiders for demographic characteristics and fall history ($P_s > 0.272$). Avoiders had worse MDS-UPDRS ($P_s < 0.014$) and PDQ-39 scores ($P_s < 0.028$). Avoiders had poorer balance performance (BBS, $P = 0.003$), lower balance confidence (ABC, $P < 0.001$), and more fall catastrophization (CoFQ, $P < 0.001$). Avoiders reported more depression ($P = 0.015$) and anxiety ($P = 0.028$). PD FOF avoiders had more involved symptoms and scored lower on balance and physical performance measures. In addition, they reported greater psychological stress. Several potentially mitigable characteristics of those with FOF avoidance behavior were identified. Video Abstract available for more insights from the authors (see Supplemental Digital Content 1, available at: <http://links.lww.com/JNPT/A153>).

Effects of 2 Years of Exercise on Gait Impairment in People With Parkinson Disease: The PRET-PD Randomized Trial.

Author(s): Rafferty, Miriam R; Prodoehl, Janey; Robichaud, Julie A; David, Fabian J; Poon, Cynthia; Goelz, Lisa C; Vaillancourt, David E; Kohrt, Wendy M; Comella, Cynthia L; Corcos, Daniel M

Source: Journal of neurologic physical therapy : JNPT; Jan 2017; vol. 41 (no. 1); p. 21-30

Abstract: This study presents a secondary analysis from the Progressive Resistance Exercise Training in Parkinson Disease (PRET-PD) trial investigating the effects of progressive resistance

exercise (PRE) and a Parkinson disease (PD)-specific multimodal exercise program, modified Fitness Counts (mFC), on spatial, temporal, and stability-related gait impairments in people with PD. Forty-eight people with PD were randomized to participate in PRE or mFC 2 times a week for 24 months; 38 completed the study. Gait velocity, stride length, cadence, and double-support time were measured under 4 walking conditions (off-/on-medication, comfortable/fast speed). Ankle strength was also measured off- and on-medication. Twenty-four healthy controls provided comparison data at one time point. At 24 months, there were no significant differences between exercise groups. Both groups improved fast gait velocity off-medication, cadence in all conditions, and plantarflexion strength off-/on-medication. Both groups with PD had more gait measures that approximated the healthy controls at 24 months than at baseline. Plantarflexion strength was significantly associated with gait velocity and stride length in people with PD at baseline and 24 months, but changes in strength were not associated with changes in gait. Twenty-four months of PRE and mFC were associated with improved off-medication fast gait velocity and improved cadence in all conditions, which is important because temporal gait measures can be resistant to medications. Spatial and stability-related measures were resistant to long-term improvements, but did not decline over 24 months. Strength gains did not appear to transfer to gait. Video Abstract available for more insights from the authors (see Supplemental Digital Content 1, <http://links.lww.com/JNPT/A161>).

Fatigue in early Parkinson's disease: the Norwegian ParkWest study.

Author(s): Ongre, S O; Larsen, J P; Tysnes, O B; Herlofson, K

Source: European journal of neurology; Jan 2017; vol. 24 (no. 1); p. 105-111

Abstract: Fatigue is a common and disabling non-motor symptom in Parkinson's disease (PD). The pathogenesis is unknown, and the treatment options are limited. The aim of the present study was to investigate the development of fatigue during the first year after diagnosis. The study design was a prospective, controlled population-based longitudinal cohort study, comprising 181 de novo, drug-naïve patients with PD and 162 control participants. PD was diagnosed according to the Gelb criteria. Fatigue was assessed by the Fatigue Severity Scale (FSS). Both groups were assessed for fatigue at baseline and after 1 year. Patients reported more fatigue than the control subjects at baseline and at the 1-year follow-up evaluation. The FSS scores in the patient group improved from a mean score of 4.4 (SD 1.6) to 4.0 (SD 1.6). Patients with fatigue at baseline received higher doses of dopaminergic medication during follow-up. Patients who received dopamine agonists improved slightly more than patients who received levodopa. A regression analysis did not show a correlation between an improvement in fatigue and a change in disease severity, depressive symptoms, sleep problems, apathy or cognitive impairment. Fatigue is a common symptom in PD, also in early, untreated patients. During the first year of observation, an improvement in the fatigue scores was found. The improvement could not be attributed to a change in disease severity or depressive symptoms. The results indicate a better effect of dopamine agonists than of levodopa. This may have implications for treatment in patients with PD-associated fatigue. © 2016 EAN.

Recommendations for the Treatment of Patients With Parkinson Disease During Ramadan.

Author(s): Damier, Philippe; Al-Hashel, Jasem

Source: JAMA neurology; Dec 2016

Abstract:Every year, Ramadan fasting is practiced by many Muslim individuals. In cases of chronic disease, religious texts allow fasting to be broken. However, many believers still want to fast even at the risk of damaging their health. To our knowledge, there are no published recommendations on the medical management of Parkinson disease (PD) during Ramadan. Effective treatments exist in PD and usually require several daily drug intakes. Apart from worsening symptoms, interrupting PD treatment might lead to a severe withdrawal syndrome. Although no specific studies on this topic have led to formal recommendations, we suggest some options for adapting the treatment for patients who fast during Ramadan. The general principle is based on switching the patient's treatment to an equivalent dosage of a dopamine agonist that can be administered once daily or by transdermal patch. However, such an option is only feasible for patients who require a moderate amount of PD treatment and can tolerate dopamine agonist therapy. Because many patients with PD require regular multiple daily administration of dopamine-replacement medication, the management of Ramadan fasting is not easy. Switching the patient's treatment to an equivalent dosage of a dopamine agonist that can be administered once daily or by transdermal patch seems to be a reasonable option to consider for patients treated with a low-to-moderate amount of PD medication.

Virtual reality for rehabilitation in Parkinson's disease.

Author(s): Dockx, Kim; Bekkers, Esther Mj; Van den Bergh, Veerle; Ginis, Pieter; Rochester, Lynn; Hausdorff, Jeffrey M; Mirelman, Anat; Nieuwboer, Alice

Source: The Cochrane database of systematic reviews; Dec 2016; vol. 12 ; p. CD010760

Abstract:Parkinson's disease (PD) is a neurodegenerative disorder that is best managed by a combination of medication and regular physiotherapy. In this context, virtual reality (VR) technology is proposed as a new rehabilitation tool with a possible added value over traditional physiotherapy approaches. It potentially optimises motor learning in a safe environment, and by replicating real-life scenarios could help improve functional activities of daily living. The objective of this review was to summarise the current best evidence for the effectiveness of VR interventions for the rehabilitation of people with PD in comparison with 1) active interventions, and 2) passive interventions. Our primary goal was to determine the effect of VR training on gait and balance. Secondary goals included examining the effects of VR on global motor function, activities of daily living, quality of life, cognitive function, exercise adherence, and the occurrence of adverse events. We identified relevant articles through electronic searches of the Cochrane Movement Disorders Group Trials Register, the Cochrane Central Register of Controlled Trials (CENTRAL) (the Cochrane Library), MEDLINE, Embase, CINAHL, the Physiotherapy Evidence Database (PEDro), online trials registers, and by handsearching reference lists. We carried out all searches up until 26 November 2016. We searched for randomised and quasi-randomised controlled trials of VR exercise interventions in people with PD. We included only trials where motor rehabilitation was the primary goal. Two review authors independently searched for trials that corresponded to the predefined inclusion criteria. We independently extracted and assessed all data for methodological quality. A third review author was responsible for conflict resolution when required. We included 8 trials involving 263 people with PD in the review. Risk of bias was unclear or high for all but one of the included studies. Study sample sizes were small, and there was a large amount of heterogeneity between trials with regard to study design and the outcome measures used. As a result, we graded the quality of the evidence as low or very low. Most of the studies intended to improve motor function using commercially available devices, which were compared with physiotherapy. The interventions lasted for between 4 and 12 weeks. In comparison to physiotherapy, VR may lead to a moderate improvement in step and stride length (standardised mean difference (SMD) 0.69, 95% confidence interval (CI) 0.30 to 1.08; 3 studies; 106 participants; low-quality evidence). VR and physiotherapy interventions may have similar effects on gait (SMD

0.20, 95% CI -0.14 to 0.55; 4 studies; 129 participants; low-quality evidence), balance (SMD 0.34, 95% CI -0.04 to 0.71; 5 studies; 155 participants; low-quality evidence), and quality of life (mean difference 3.73 units, 95% CI -2.16 to 9.61; 4 studies; 106 participants). VR interventions did not lead to any reported adverse events, and exercise adherence did not differ between VR and other intervention arms. The evidence available comparing VR exercise with a passive control was more limited. The evidence for the main outcomes of interest was of very low quality due to the very small sample sizes of the two studies available for this comparison. We found low-quality evidence of a positive effect of short-term VR exercise on step and stride length. VR and physiotherapy may have similar effects on gait, balance, and quality of life. The evidence available comparing VR with passive control interventions was more limited. Additional high-quality, large-scale studies are needed to confirm these findings.

Neuromuscular Impairments Are Associated With Impaired Head and Trunk Stability During Gait in Parkinson Fallers.

Author(s): Cole, Michael H; Naughton, Geraldine A; Silburn, Peter A

Source: Neurorehabilitation and neural repair; Jan 2017; vol. 31 (no. 1); p. 34-47

Abstract:Background The trunk plays a critical role in attenuating movement-related forces that threaten to challenge the body's postural control system. For people with Parkinson's disease (PD), disease progression often leads to dopamine-resistant axial symptoms, which impair trunk control and increase falls risk. Objective This prospective study aimed to evaluate the relationship between impaired trunk muscle function, segmental coordination, and future falls in people with PD. Methods Seventy-nine PD patients and 82 age-matched controls completed clinical assessments and questionnaires to establish their medical history, symptom severity, balance confidence, and falls history. Gait characteristics and trunk muscle activity were assessed using 3-dimensional motion analysis and surface electromyography. The incidence, cause, and consequence of any falls experienced over the next 12 months were recorded and indicated that 48 PD and 29 control participants fell at least once during this time. Results PD fallers had greater peak and baseline lumbar multifidus (LMF) and thoracic erector spinae (TES) activations than control fallers and nonfallers. Analysis of covariance indicated that the higher LMF activity was attributable to the stooped posture adopted by PD fallers, but TES activity was independent of medication use, symptom severity, and trunk orientation. Furthermore, greater LMF and TES baseline activity contributed to increasing lateral head, trunk, and pelvis movements in PD fallers but not nonfallers or controls. Conclusions The results provide evidence of neuromuscular deficits for PD fallers that are independent of medications, symptom severity, and posture and contribute to impaired head, trunk, and pelvis control associated with falls in this population. © The Author(s) 2016.

Group singing and health-related quality of life in Parkinson's disease.

Author(s): Abell, Romane V; Baird, Anee D; Chalmers, Kerry A

Source: Health psychology : official journal of the Division of Health Psychology, American Psychological Association; Jan 2017; vol. 36 (no. 1); p. 55-64

Abstract:Parkinson's disease (PD) has a negative impact on health-related quality of life (HRQoL). Previous studies have shown that participating in group singing activities can improve quality of life in some patient populations (e.g., people with chronic mental health or neurological conditions).

The aim of this study was to investigate the effects of group singing on HRQoL for people diagnosed with PD. Eleven participants (mean age 70.6 years) with a formal diagnosis of PD between Hoehn and Yahr Stages I-III were recruited from a community singing group for people with PD, their family and their carers. Participants' perceptions of the effect of group singing on their quality of life were captured in a semistructured interview. Interpretive Phenomenological Analysis (IPA), a qualitative methodology, informed data collection and analysis. The IPA analysis revealed 6 categories that characterized the effects of group singing: physical, mood, cognitive functioning, social connectedness, "flow-on" effects, and sense-of-self. All participants reported positive effects across at least 4 of these categories. Three participants reported a negative effect in 1 category (physical, mood, or sense-of-self). The results suggest that group singing improved HRQoL with all participants reporting positive effects regardless of PD stage or symptom severity. Weekly engagement in group singing resulted in multiple benefits for the participants and counteracted some of the negative effects of PD. These findings suggest that group singing "gives back" some of what PD "takes away." (PsycINFO Database Record (c) 2017 APA, all rights reserved).

Onset and evolution of anxiety in Parkinson's disease.

A

Author(s): Zhu, K; van Hilten, J J; Marinus, J

Source: European journal of neurology; Dec 2016

Abstract: Anxiety is common in Parkinson's disease (PD) and has a great influence on quality of life. However, little is known about risk factors for development of anxiety in PD. We investigated which factors were associated with longitudinal changes in severity of anxiety symptoms and development of future anxiety in patients who were not anxious at baseline. Analyses were performed on data of the PROFiling PARKinson's disease (PROPARK) cohort, a 5-year hospital-based longitudinal cohort of over 400 patients with PD who have been examined annually. Linear mixed models were used to identify factors associated with longitudinal changes in Hospital Anxiety and Depression Scale - Anxiety (HADS-A) scores. Survival analysis using data of patients who were not anxious at baseline was performed to identify predictors of future anxiety (i.e. HADS-A \geq 11). Of 409 patients who were included at baseline, 67 (16%) had anxiety, whereas 64 (19%) of the remaining 342 non-anxious patients developed anxiety after a mean (SD) follow-up of 2.6 (1.3) years. Seventy percent of the patients with anxiety were also depressed. Female gender, cognitive impairment, depressive symptoms, dysautonomia, insomnia and excessive daytime sleepiness (EDS) at baseline were associated with higher HADS-A scores over time and, except for female gender and EDS, all of these variables were independent predictors of development of anxiety in patients who were not anxious at baseline. Anxiety is highly prevalent in PD. Higher anxiety scores over time and future development of anxiety are associated with female gender, cognitive impairment, autonomic dysfunction, insomnia and EDS. Anxiety and depression usually coexist and share similar determinants, suggesting a common pathophysiological mechanism. © 2016 EAN.

Textured and stimulating insoles for balance and gait impairments in patients with multiple sclerosis and Parkinson's disease: A systematic review and meta-analysis.

Author(s): Alfuth, Martin

Source: Gait & posture; Jan 2017; vol. 51 ; p. 132-141

Abstract: The aim of this systematic review with meta-analysis was to investigate if using textured or other types of stimulating insoles improve gait characteristics and balance/postural control in patients with multiple sclerosis and Parkinson's disease. Primary outcomes for balance were the center of pressure (CoP) displacement and CoP velocity/sway rate. Primary outcomes for gait were the cadence, velocity, and step length. Standardized mean differences (SMD) were used to verify the efficacy of wearing the insoles on gait and balance outcome measures. Study quality was evaluated using the checklist of the CONSORT- Statement. Six studies were included in the review. Five studies had low methodological quality, scoring <17/37 on the checklist, one study had moderate methodological quality, scoring 27/37 on the checklist. Due to designs of the included studies, only immediate effects could be calculated. Among the primary outcome measures cadence, gait velocity and step length, there was no evidence of an effect of using textured/stimulating insoles compared with the respective control condition (Totals: SMD -0.09, 95% CI -0.35 to 0.16; SMD 0.18, 95% CI -0.17 to 0.53; SMD -0.13, 95% CI -0.31 to 0.05). Furthermore, among the primary outcome measures CoP displacement and CoP velocity, no evidence of an effect was found as well (Subtotals multiple sclerosis: SMD 0.07, 95% CI -0.15 to 0.28; SMD -0.08, 95% CI -0.55 to 0.39). Therefore, using textured or other types of stimulating insoles for the treatment of balance and gait impairments in patients with multiple sclerosis and Parkinson's disease seem to have no effect. Copyright © 2016 Elsevier B.V. All rights reserved.

The Perceive, Recall, Plan and Perform (PRPP) system for persons with Parkinson's disease: a psychometric study.

Author(s): Van Keulen-Rouweler, Bianca J.; Sturkenboom, Ingrid H. W. M.; Kottorp, Anders; Graff, Maud J. L.; Nijhuis-Van der Sanden, Maria W. G. M.; Steultjens, Esther M. J.

Source: Scandinavian Journal of Occupational Therapy; Jan 2017; vol. 24 (no. 1); p. 65-73

Massage Therapy and Self-Care for PD.

Author(s): Goldsmith, Rosi

Source: Alternative & Complementary Therapies; Dec 2016; vol. 22 (no. 6); p. 269-270

T'ai chi May Improve Balance in Parkinson's Disease.

Author(s): Hart, Jane

Source: Alternative & Complementary Therapies; Dec 2016; vol. 22 (no. 6); p. 269-269

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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