

# Parkinson's Disease Current Awareness Bulletin

July 2020

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**Title: Safinamide as an adjunct therapy in older patients with Parkinson's disease: a retrospective study.**

**Citation:** Aging Clinical & Experimental Research; Jul 2020; vol. 32 (no. 7); p. 1369-1373

**Author(s):** Lo Monaco ; Petracca, Martina; Vetrano, Davide Liborio; Di Stasio, Enrico; Fusco, Domenico; Ricciardi, Diego; Laudisio, Alice; Zuccalà, Giuseppe; Onder, Graziano; Bentivoglio, Anna Rita

**Background:** Safinamide, as a levodopa adjunct, is effective in reducing motor fluctuations in Parkinson's disease (PD) patients; however, scarce evidence is available regarding its use in older PD patients. Aim: To evaluate the safety and tolerability of safinamide as an adjunct therapy in patients aged  $\geq 60$  years with advanced PD.

**Methods:** A retrospective study including 203 PD patients admitted to a geriatric day hospital, who were evaluated following an extensive clinical protocol. Safinamide use was categorized as never used, ongoing, and withdrawn. Potential correlations of Safinamide withdrawal were investigated in stepwise backward logistic regression models.

**Results:** A total of 44 out of 203 participants were current or former users of Safinamide. Overall, 14 (32%) patients discontinued due to treatment-emergent adverse events (TEAEs). Withdrawal was not associated with older age.

**Conclusions:** Safinamide as an adjunct therapy in patients aged  $\geq 60$  years with advanced PD was found to be safe and well-tolerated in older patients. There were no specific demographic or clinical characteristics associated with suspension.

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**Title: Evaluation of Cognitive Function in Relation to Progression of Parkinson Disease.**

**Citation:** American Journal of Physical Medicine & Rehabilitation; Jul 2020; vol. 99 (no. 7); p. 626-629

**Author(s):** Yamawaki ; Nankaku, Manabu; Kusano, Yusuke; Tajima, Ayumi; Ikeguchi, Ryosuke; Matsuda, Shuichi

**Abstract:** Supplemental digital content is available in the text.

**Objective:** Cognitive impairments are among the nonmotor symptoms in patients with Parkinson disease. Understanding the cognitive impairments in patients with Parkinson disease may be critical for developing effective rehabilitation interventions. The aims of this study were to assess cognitive function in patients with Parkinson disease using the Wechsler Adult Intelligence Scale Third Edition, and the Wechsler Memory Scale Revised and to investigate how cognitive impairments relate to progression of disease in patients with Parkinson disease according to the Hoehn and Yahr stages.

**Design:** Seventy-eight patients with Parkinson disease participated in the present study. Our study consisted of patients in the following Hoehn and Yahr groups: 1 (no disability,  $n = 11$ ), 2 (mild,  $n = 34$ ), 3 (moderate,  $n = 26$ ), and 4 and 5 (severe,  $n = 7$ ). Cognitive function was assessed using the Wechsler Adult Intelligence Scale Third Edition, and the Wechsler Memory Scale Revised.

**Results:** The verbal memory was significantly higher in group 1 ( $106.4 \pm 12.0$ ) than in the other groups (2:  $90.5 \pm 14.0$ , 3:  $89.9 \pm 16.9$ , 4 and 5:  $89.6 \pm 11.4$ ). Visual memory and delayed recall were similar to the results seen with verbal memory; however, the differences between groups were not statistically significant. The full-scale IQ was not significantly different (1:  $107.3 \pm 8.1$ , 2:  $96.9 \pm 18.2$ , 3:  $96.7 \pm 14.8$ , 4 and 5:  $91.7 \pm 9.5$ ).

**Conclusions:** These results suggest that a comprehensive assessment focused on memory impairments is important for applying the appropriate interventions in patients with early-stage Parkinson disease.

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**Title:** The clinical impact of COVID-19 infection on people with Parkinson's.

**Citation:** British Journal of Neuroscience Nursing; Jun 2020; vol. 16 (no. 3); p. 121-124

**Author(s):** Hand ; Chaudhuri, K Ray

**Abstract:** The impact of COVID-19 has been, and continues to be, felt across the world. For some people the risks associated with contracting this virus are greater than others due to underlying health conditions. This article explores the impact of COVID-19 for people with Parkinson's and how specialist health services are having to change to continue to support this group of patients.

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**Title:** Parkinson's disease and the COVID-19 pandemic: responding to patient need with nurse-led telemedicine.

**Citation:** British Journal of Neuroscience Nursing; Jun 2020; vol. 16 (no. 3); p. 131-133

**Author(s):** Thomas ; Mancini, Francesca; Ebenezer, Louise; Price, Jane; Carta, Tania; Cordasco, Jessica; Tedesco, Chiara; Gillett, Sarah

**Abstract:** With the COVID-19 pandemic limiting face-to-face interaction, the drive for innovation and the need to develop alternative solutions to patient engagement, treatment and diagnosis has been suddenly accelerated. Sue Thomas and national and international colleagues outline a novel technological initiative launched in Italy to cope with the pressures of the pandemic, providing inspiration for similar future projects in the UK

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**Title:** Effect of Virtual Reality on Balance in Individuals With Parkinson Disease: A Systematic Review and Meta-Analysis of Randomized Controlled Trials.

**Citation:** Physical Therapy; Jun 2020; vol. 100 (no. 6); p. 933-945

**Author(s):** Chen ; Gao, Qiang; He, Cheng-Qi; Bian, Rong

**Background:** Virtual reality (VR) is a frequently used intervention for the rehabilitation of individuals with neurological disorders.

**Purpose:** The aims of this review were to identify the short-term effect of VR on balance and to compare it with the effect of active interventions in individuals with Parkinson disease (PD). Data Sources Searches for relevant articles available in English were conducted using the MEDLINE (via PubMed), EMBASE, CENTRAL, CINAHL, PsycINFO, and Physiotherapy Evidence Database databases from inception until March 2019.

**Study Selection:** All randomized controlled trials comparing the effect of training with VR and the effect of training without VR on balance in individuals with PD were included.

**Data Extraction:** Two authors independently extracted data, assessed the methodological quality, and evaluated the evidence quality of the studies.

**Data Synthesis:** Fourteen randomized controlled trials including 574 individuals were eligible for qualitative analyses, and 12 of the studies involving 481 individuals were

identified as being eligible for meta-analyses. Compared with active interventions, the use of VR improved the Berg Balance Scale score (mean difference = 1.23; 95% CI = 0.15 to 2.31; I<sup>2</sup> = 56%). The Dynamic Gait Index and Functional Gait Assessment results were also significant after the sensitivity analyses (mean difference = 0.69; 95% CI = 0.12 to 1.26; I<sup>2</sup> = 0%). Both provided moderate statistical evidence. However, the Timed "Up & Go" Test and the Activities-Specific Balance Confidence Scale did not differ significantly. Limitations Publication bias and diversity in the interventions were the main limitations.

**Conclusions:** Existing moderate evidence of the effectiveness of VR with the Berg Balance Scale, Dynamic Gait Index, and Functional Gait Assessment for individuals with PD was promising. Although the differences did not reach the clinically important change threshold, VR was comparable to active interventions and could be considered an adjuvant therapy for balance rehabilitation in individuals with PD.

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**Title: The Figure-of-8 Walk Test used to detect the loss of motor skill in walking among persons with Parkinson's disease.**

**Citation:** Physiotherapy theory and practice; Jun 2020 ; p. 1-9

**Author(s):** Lowry, Kristin; Woods, Taylor; Malone, Amanda; Krajek, Alex; Smiley, Ann; Van Swearingen, Jessie

**Background:** The Figure-of-8 Walk Test (F8W) is a valid measure of walking skill in older adults with a mobility disability. Use of the F8W in assessing walking skill in persons with Parkinson's disease (PWP) is unknown.

**Purpose:** We examined the validity of the F8W by associations with mobility, and cognitive and physical function, and determined the ability of the F8W to discriminate the motor skill of walking in PWP from that of older adults (OA).

**Methods:** Participants, PWP (n = 60) and OA (n = 34) performed the F8W, usual straight path walking, the Montreal Cognitive Assessment (MoCA), and the Late-Life Function and Disability Instrument (LLFDI).

**Results:** Among PWP, F8W time and steps related to: usual gait speed (r = -0.660, -0.650); stride time variability (r = 0.377, 0.438); cognition (r = -0.293, time only); and physical function (r = -0.532, -0.619), all p < .05. Area under the curve (AUC) analyses demonstrated greater sensitivity and specificity of F8W performance (0.811, 0.790) compared to usual gait speed (0.729) to recognize the motor skill of walking in PWP from that of OA.

**Conclusion:** The F8W is a valid indicator of the motor skill of walking in PWP. Use of the F8W may uncover walking difficulties not identified by usual gait speed.

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**Title: Nordic Walking and Walking in Parkinson's disease: a randomized single-blind controlled trial.**

**Citation:** Aging clinical and experimental research; Jun 2020

**Author(s):** Granziera, Serena; Alessandri, Andrea; Lazzaro, Anna; Zara, Daniela; Scarpa, Alberto

**Introduction:** Non-pharmacological interventions are increasingly being acknowledged as valuable options to overcome or reduce functional problems in patients with Parkinson's disease. In the last decades, Nordic Walking was employed and investigated by rehabilitation specialists. Clinical trials on the effect of Nordic Walking on motor and non-motor Parkinson's disease symptoms are few, small, and heterogeneous for inclusion

criteria and intervention protocols. As a result, Nordic Walking training cannot be recommended as a standard rehabilitative tool in Parkinson's disease patients.

**Methods:** This randomized controlled single-blind trial recruited Parkinson's disease patients at a Hoehn and Yahr stage between 2 and 3 assigned to a Nordic Walking vs. Walking group. Subjects were extensively assessed for motor and non-motor symptoms at baseline and after 8 weeks of intervention period. To study the effects of intervention on the overall sample, paired-sample t test and Wilcoxon signed rank test were used, while differences between groups were estimated with general linear models repeated-measure and Mann-Whitney U test.

**Results:** Among 32 patients who ended the study period, improvements were observed in the following assessments: global motor outcome (p 0.001), dynamic and static balance ability (p 0.005; p 0.002), global non-motor symptoms outcome (p 0.003), fatigue (p 0.016), anxiety (p 0.043), and quality of life (p 0.003). The treatment group (Nordic Walking) failed to show any difference compared to the control group (Walking) in all considered outcomes.

**Conclusion:** Nordic Walking was not superior compared to Walking in the studied population. Moderate intensity outdoor group activities like Nordic Walking and Walking seem to improve motor and non-motor symptoms parameters in patients with Parkinson's disease.

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**Title: Assessment of Functional Activities in Individuals with Parkinson's Disease Using a Simple and Reliable Smartphone-Based Procedure.**

**Citation:** International journal of environmental research and public health; Jun 2020; vol. 17 (no. 11)

**Author(s):** Serra-Añó, Pilar; Pedrero-Sánchez, José Francisco; Inglés, Marta; Aguilar-Rodríguez, Marta; Vargas-Villanueva, Ismael; López-Pascual, Juan

**Abstract:** Parkinson's disease (PD) is a progressive neurodegenerative disorder leading to functional impairment. In order to monitor the progression of the disease and to implement individualized therapeutic approaches, functional assessments are paramount. The aim of this study was to determine the impact of PD on balance, gait, turn-to-sit and sit-to-stand by means of a single short-duration reliable test using a single inertial measurement unit embedded in a smartphone device. Study participants included 29 individuals with mild-to-moderate PD (PG) and 31 age-matched healthy counterparts (CG). Functional assessment with FallSkip® included postural control (i.e., Medial-Lateral (ML) and Anterior-Posterior (AP) displacements), gait (Vertical (V) and Medial-Lateral (ML) ranges), turn-to-sit (time) and sit-to-stand (power) tests, total time and gait reaction time. Our results disclosed a reliable procedure (intra-class correlation coefficient (ICC) = 0.58-0.92). PG displayed significantly larger ML and AP displacements during the postural test, a decrease in ML range while walking and a longer time needed to perform the turn-to-sit task than CG (p 0.05). In conclusion, people with mild-to-moderate PD exhibit impaired postural control, altered gait strategy and slower turn-to-sit performance than age-matched healthy people.

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**Title: Treatment of Dysphagia in Parkinson's Disease: A Systematic Review.**

**Citation:** International journal of environmental research and public health; Jun 2020; vol. 17 (no. 11)

**Author(s):** López-Liria, Remedios; Parra-Egeda, Jennifer; Vega-Ramírez, Francisco A; Aguilar-Parra, José Manuel; Trigueros-Ramos, Rubén; Morales-Gázquez, María José; Rocamora-Pérez, Patricia

**Abstract:** The incidence of oropharyngeal dysphagia in Parkinson's disease (PD) is very high. It is necessary to search for effective therapies that could prevent pneumonia. Previous results should be interpreted cautiously as there is a lack of evidence to support the use of compensatory or rehabilitative approaches to dysphagia. We reviewed the scientific literature to describe the treatments of dysphagia in PD. A systematic review was performed in PubMed, Scopus, Elsevier, and Medline according to PRISMA standards in 2018. The articles that did not mention dysphagia secondary to PD or used surgical treatment were excluded. Eleven articles met the criteria with information from 402 patients. The review relates to different protocols, such as training in expiratory muscle strength, postural techniques, oral motor exercises, video-assisted swallowing therapy, surface electrical stimulation, thermal stimulation, touch, compensatory interventions, training regime for swallowing, neuromuscular electrical stimulation, Lee Silverman voice treatment, swallow maneuver, airway protection, and postural compensation maneuvers. This review identifies the rationing interventions in each trial, if they are efficient and equitable. Several rehabilitative therapies have been successful. An improvement was seen in the degenerative function (coordination, speed, and volume), quality of life, and social relationships of people with PD. Further investigations concerning the clinical applicability of these therapies based on well-designed randomized controlled studies are needed. Larger patient populations need to be recruited to evaluate the effectiveness, long-term effects, and new treatment techniques.

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**Title:** Guidelines on exercise testing and prescription for patients at different stages of Parkinson's disease.

**Citation:** Aging clinical and experimental research; Jun 2020

**Author(s):** Martignon, Camilla; Pedrinolla, Anna; Ruzzante, Federico; Giuriato, Gaia; Laginestra, Fabio Giuseppe; Bouça-Machado, Raquel; Ferreira, Joaquim J; Tinazzi, Michele; Schena, Federico; Venturelli, Massimo

**Background:** Exercise is highly recommended in patients with Parkinson's disease (PD). Exercise-induced amelioration of motor, non-motor, and drug-induced symptoms are widely known. However, specific guidelines on exercise testing and prescription in PD are lacking.

**Objective:** This study reviews the literature on exercise-based approaches to the management of symptoms at each stage of the disease and evaluate: (1) the most suitable clinical exercise testing; (2) training programs based on testing outcomes and PD stage; (3) the effects of exercise on antiparkinsonian drugs and to suggest the most effective exercise-medication combination.

**Methods:** A systematic search was conducted using the databases MEDLINE, Google Scholar and, Cochrane Library using "Parkinson's Disease AND Physical therapy", "Training AND Parkinson", "Exercise", "Exercise AND Drug" as key words. In addition, references list from the included articles were searched and cross-checked to identify any further potentially eligible studies.

**Results:** Of a total of 115 records retrieved, 50 (43%) were included. From these, 23 were included under the rubric "exercise testing"; 20 focused on the effectiveness of different types of exercise in PD motor-functional symptoms and neuroprotective effects, throughout disease progression, were included under the rubric "training protocol prescription"; and 7 concern the rubric "interaction between exercise and medication", although none reported consistent results.

**Conclusions:** Despite the lack of standardized parameters for exercise testing and prescription, all studies agree that PD patients should be encouraged to regularly train according to their severity-related limitations and their personalized treatment plan. In this

manuscript, specific guidelines for tailored clinical testing and prescription are provided for each stage of PD.

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**Title: Improving the quality of life of patients with Parkinson's disease: animal-assisted therapy in focus.**

**Citation:** Psychogeriatrics : the official journal of the Japanese Psychogeriatric Society; Jun 2020

**Author(s):** Scorza, Carla A; Guimarães-Marques, Marcia; Nejm, Mariana; Victorino, Daniella B; Fiorini, Ana C; Finsterer, Josef; Scorza, Fulvio A

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**Title: Dementia and subthalamic deep brain stimulation in Parkinson disease: A long-term overview.**

**Citation:** Neurology; Jul 2020

**Author(s):** Bove, Francesco; Fraix, Valerie; Cavallieri, Francesco; Schmitt, Emmanuelle; Lhommée, Eugénie; Bichon, Amélie; Meoni, Sara; Pélissier, Pierre; Kistner, Andrea; Chevrier, Eric; Ardouin, Claire; Limousin, Patricia; Krack, Paul; Benabid, Alim Louis; Chabardès, Stephan; Seigneuret, Eric; Castrioto, Anna; Moro, Elena

**Objectives:** To assess the prevalence and the cumulative incidence of dementia at short-, medium- and long-term follow-up after deep brain stimulation (DBS) of the subthalamic nucleus (STN) (at 1, 5, and 10 years) and to evaluate potential risk factors for postoperative dementia.

**Methods:** The presence of dementia (according to the DSM-V) was retrospectively evaluated at each postoperative follow-up in patients with Parkinson disease (PD) who underwent bilateral STN-DBS. Preoperative and perioperative risk factors of developing postoperative dementia were also investigated. Demographic data, disease features, medications, comorbidities, nonmotor symptoms, PD motor scales, neuropsychological scales at baseline, and perioperative complications were collected for each patient.

**Results:** A total of 175 patients were included, and 104 were available at 10-year follow-up. Dementia prevalence was 2.3% at 1 year, 8.5% at 5 years, and 29.8% at 10 years. Dementia cumulative incidence at 1, 5, and 10 years was 2.3%, 10.9%, and 25.7%, respectively. The corresponding dementia incidence rate was 35.6 per 1,000 person-years. Male sex, higher age, hallucinations, lower frontal score at baseline, and perioperative cerebral hemorrhage were predictors of dementia.

**Conclusions:** In patients with PD with longstanding STN-DBS, dementia prevalence and incidence are not higher than those reported in the general PD population. Except for few patients with perioperative cerebral hemorrhage, STN-DBS is cognitively safe, and does not provide dementia risk factors in addition to those reported for PD itself. Identification of dementia predictors in this population may improve patient selection and information concerning the risk of poor cognitive outcome.

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**Title: New hopes for disease modification in Parkinson's Disease.**

**Citation:** Neuropharmacology; Jul 2020; vol. 171 ; p. 108085

**Author(s):** Poewe, Werner; Seppi, Klaus; Marini, Kathrin; Mählknecht, Philipp

**Abstract:** To date, despite numerous clinical trials, no intervention has been demonstrated to modify the progression of Parkinson's disease (PD). However, over the past decades encouraging progress has been made towards a better understanding of molecular pathways relevant for the neurodegenerative process in PD. This is also based on new insights into the genetic architecture of the disease, revealing multiple novel targets for potentially disease-modifying interventions. Important achievements have also been made in the field of risk markers and combinations thereof, in the form of risk algorithms, will hopefully soon provide the possibility to identify affected individuals at yet prediagnostic or prodromal stages of the illness. Such phases of the disease would provide an ideal window for neuroprotection trials. Taken together, these developments offer hope that a breakthrough towards modifying the course of PD might be reached. In this article we summarize various approaches currently pursued in this quest. This article is part of the special issue entitled 'The Quest for Disease-Modifying Therapies for Neurodegenerative Disorders'.

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**Title: Low back pain in Parkinson's disease: A cross-sectional study of its prevalence, and implications on functional capacity and quality of life.**

**Citation:** Clinical neurology and neurosurgery; Jul 2020; vol. 194 ; p. 105787

**Author(s):** Silveira Barezani, André Luis; de Figueiredo Feital, Aline Michele Batista; Gonçalves, Bernardo Machado; Christo, Paulo Pereira; Scalzo, Paula Luciana

**Objective:** The aim of this study was to estimate the prevalence of low back pain (LBP) in patients with Parkinson's disease (PD) and its impact on functional capacity and quality of life.

**Methods:** Patients with idiopathic PD answered a questionnaire and were submitted to a clinical and functional assessment. Unified Parkinson's Disease Rating Scale (UPDRS), Hoehn and Yahr Scale, Beck Depression Inventory (BDI), McGill Pain Questionnaire (McGill), Roland Morris Disability Questionnaire (RMDQ), 39-item Parkinson's Disease Questionnaire (PDQ-39) were used. In addition, the ability to contract transversus abdominis (TrA) was assessed.

**Results:** One hundred and fifteen patients answered the questionnaire, and 95 (82.6 %) reported painful symptoms. Of these, 67 (58.3 %) had chronic LBP, and approximately 40 % patients reported its onset before diagnosis of PD. Higher scores in pain intensity, depressive symptoms and UPDRS II and III, more advanced stages of PD, and absence of TrA contraction determined poor functional limitation induced by LBP. However, pain intensity (McGill), severity of PD symptoms (UPDRS III) and absence of TrA contraction were identified as predictive factors for functional limitation and explained 66.1 % of the variance in the RMDQ. Pain intensity and LBP-related disability caused negative impact on the quality of life.

**Conclusion:** LBP is common in patients with PD and it causes disability and poor quality of life. Pain intensity, UPDRS III and absence of TrA contraction were the most significant predictive factors for disability assessed by the RMDQ.

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**Title: Evaluation of Cognitive Function in Relation to Progression of Parkinson Disease.**

**Citation:** American journal of physical medicine & rehabilitation; Jul 2020; vol. 99 (no. 7); p. 626-629



**Author(s):** Yamawaki, Rie; Nankaku, Manabu; Kusano, Yusuke; Tajima, Ayumi; Ikeguchi, Ryosuke; Matsuda, Shuichi

**Objective:** Cognitive impairments are among the nonmotor symptoms in patients with Parkinson disease. Understanding the cognitive impairments in patients with Parkinson disease may be critical for developing effective rehabilitation interventions. The aims of this study were to assess cognitive function in patients with Parkinson disease using the Wechsler Adult Intelligence Scale Third Edition, and the Wechsler Memory Scale Revised and to investigate how cognitive impairments relate to progression of disease in patients with Parkinson disease according to the Hoehn and Yahr stages.

**Design:** Seventy-eight patients with Parkinson disease participated in the present study. Our study consisted of patients in the following Hoehn and Yahr groups: 1 (no disability, n = 11), 2 (mild, n = 34), 3 (moderate, n = 26), and 4 and 5 (severe, n = 7). Cognitive function was assessed using the Wechsler Adult Intelligence Scale Third Edition, and the Wechsler Memory Scale Revised.

**Results:** The verbal memory was significantly higher in group 1 ( $106.4 \pm 12.0$ ) than in the other groups (2:  $90.5 \pm 14.0$ , 3:  $89.9 \pm 16.9$ , 4 and 5:  $89.6 \pm 11.4$ ). Visual memory and delayed recall were similar to the results seen with verbal memory; however, the differences between groups were not statistically significant. The full-scale IQ was not significantly different (1:  $107.3 \pm 8.1$ , 2:  $96.9 \pm 18.2$ , 3:  $96.7 \pm 14.8$ , 4 and 5:  $91.7 \pm 9.5$ ).

**Conclusions:** These results suggest that a comprehensive assessment focused on memory impairments is important for applying the appropriate interventions in patients with early-stage Parkinson disease.

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## **Title: Cognitive-Behavioral Therapy for Anxiety in Parkinson's Disease.**

**Citation:** Behavior modification; Jul 2020; vol. 44 (no. 4); p. 552-579

**Author(s):** Reynolds, Gretchen O; Saint-Hilaire, Marie; Thomas, Cathi A; Barlow, David H; Cronin-Golomb, Alice

**Abstract:** Parkinson's disease (PD) is characterized by motor symptoms, but nonmotor symptoms also significantly impair daily functioning and reduce quality of life. Anxiety is prevalent and debilitating in PD, but remains understudied and undertreated. Much affective research in PD focuses on depression rather than anxiety, and as such, there are no evidence-based treatments for anxiety in this population. Cognitive-behavioral therapy (CBT) has shown promise for treating depression in PD and may be efficacious for anxiety. This exploratory study implemented a multiple-baseline single-case experimental design to evaluate the utility and feasibility of CBT for individuals with PD who also met criteria for a DSM-5 anxiety disorder (n = 9). Participants were randomized to a 2-, 4-, or 6-week baseline phase, followed by 12 CBT sessions, and two post treatment assessments (immediately post treatment and 6-week follow-up). Multiple outcome measures of anxiety and depression were administered weekly during baseline and intervention. Weekly CBT sessions were conducted in-person (n = 5) or via secure videoconferencing (n = 4). At post treatment, seven of the nine participants showed significant reductions in anxiety and/or depression, with changes functionally related to treatment and most improvements maintained at 6-week follow-up. Effects of CBT on secondary outcomes varied across participants, with preliminary evidence for reduction in fear of falling. Adherence and retention were high, as were treatment satisfaction and acceptability. The findings of this pilot study provide preliminary evidence for the utility of CBT as a feasible treatment for anxiety and comorbid depressive symptoms in PD and highlight the potential of telehealth interventions for mood in this population.

**Title: Experiences of advance care planning in Parkinson's disease and atypical Parkinsonian disorders: a mixed methods systematic review.**

**Citation:** European journal of neurology; Jun 2020

**Author(s):** Nimmons, Danielle; Hatter, Lee; Davies, Nathan; Sampson, Elizabeth L; Walters, Kate; Schrag, Anette

**Background:** Advance care planning allows people to plan for their future care needs and can include medical, psychological and social aspects. However, little is known on the use, experience of and attitudes towards advance care planning in patients with Parkinsonian disorders, their family carers and in health care professionals.

**Methods:** We conducted a systematic search of online databases in April 2019 using a narrative synthesis approach with thematic analysis and tabulation to synthesise the findings.

**Results:** We identified 507 articles and 27 were included. There were five overarching themes: 1) what is involved in advance care planning discussions, 2) when and how advance care planning discussions are initiated, 3) barriers to advance care planning, 4) the role of healthcare professionals and 5) the role of the family carer. This evidence was used to highlight eight effective components to support optimal advance care planning in Parkinsonian disorders: advanced care planning discussions should be individualised in content, timing and approach, patients be invited to discuss advance care planning early and regularly, palliative care services be introduced early, a skilled professional deliver advance care planning, support to family carers be offered in the advance care planning process, healthcare professionals educated on Parkinsonian disorders and palliative care, advance care planning be clearly documented and shared with relevant services; and healthcare professionals enabled to conduct effective advance care planning.

**Conclusions:** These components can inform best practice in advance care planning in patients with Parkinsonian disorders.

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**Title: Integrated Care in Parkinson's Disease: A Systematic Review and Meta-Analysis.**

**Citation:** Movement disorders : official journal of the Movement Disorder Society; Jun 2020

**Author(s):** Rajan, Roopa; Brennan, Laura; Bloem, Bastiaan R; Dahodwala, Nabila; Gardner, Joan; Goldman, Jennifer G; Grimes, David A; Iansek, Robert; Kovács, Norbert; McGinley, Jennifer; Parashos, Sotirios A; Piemonte, Maria E P; Eggers, Carsten

**Background:** Quality of life in Parkinson's disease (PD) is affected by motor and nonmotor symptoms, necessitating an integrated care approach. Existing care models vary considerably in numerous domains. The objectives of this study were to perform a systematic review and meta-analysis of PD integrated care models and develop recommendations for a representative model.

**Methods:** We conducted a systematic review of published integrated care models and a meta-analysis of randomized, controlled trials examining integrated care versus standard care. The primary outcome was health-related quality of life using a validated PD scale. We evaluated levels of care integration using the Rainbow Model of Integrated Care.

**Results:** Forty-eight publications were identified, including 8 randomized, controlled trials with health-related quality of life data (n = 1,149 total PD patients). Qualitative evaluation of individual care model integration guided by the Rainbow Model of Integrated Care revealed frequent clinical and professional integration, but infrequent organizational and population-

based integration elements. Meta-analysis of randomized, controlled trials revealed significant heterogeneity ( $I^2 = 90\%$ ,  $P < 0.0001$ ). Subgroup analysis including only outpatient care models ( $n = 5$ ) indicated homogeneity of effects ( $I^2 = 0\%$ ,  $P = 0.52$ ) and improved health-related quality of life favoring integrated care, with a small effect size (standardized mean difference [SMD], -0.17; 95% CI, -0.31 to -0.03;  $P = 0.02$ ).

**Conclusions:** Outpatient integrated PD care models may improve patient-reported health-related quality of life compared with standard care; however, because of variable methodological approaches and a high risk of bias related to inherent difficulties in study design (eg, blinding of participants and interventionists), generalizability of these results are difficult to establish. The Rainbow Model of Integrated Care is a promising method of evaluating elements and levels of integration from individual patient care to population health in a PD context. © 2020 The Authors. Movement Disorders published by Wiley Periodicals, LLC. on behalf of International Parkinson and Movement Disorder Society.

### **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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