

Parkinson's Disease Current Awareness Bulletin

October 2018

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Title: Improving self-management for persons with Parkinson's disease through education focusing on management of daily life: Patients' and relatives' experience of the Swedish National Parkinson School

Citation: Journal of Clinical Nursing; Oct 2018; vol. 27 (no. 19-20); p. 3719

Author(s): Hellqvist, Carina; Dizdar, Nil; Hagell, Peter; Berterö, Carina; Märta Sund-Levander

Aims and objective: To identify and describe experiences valuable for managing daily life after participation in the NPS self-management intervention. The second part was to explore the applicability of the Self- and family management framework by Grey and colleagues for persons with Parkinson's Disease and their relatives.

Background: The impact of PD is evident on the lives of both patients and relatives. The National Parkinson School (NPS) is a Swedish self-management programme designed for patients and relatives, aiming at teaching strategies helpful for the ability of self-management, in order to promote life satisfaction.

Design: Qualitative explorative with inductive and deductive analysis.

Methods: Five group discussions with NPS participants were audio-recorded. Verbatim transcriptions were analysed inductively with thematic analysis according to Braun and Clarke, and the findings were then applied deductively to the existing model for patients with chronic disease.

Results: Through the first step of inductive analysis, three themes capturing the meaning, value and experience of being a participant at the NPS were identified: exchanging experiences and feeling support, adjustment and acceptance of PD for managing daily life and promoting life satisfaction. The deductive analysis applied the inductive findings to the Self- and family management framework of chronically ill to explore the fit to persons with PD and relatives attending the NPS programme.

Conclusions: The NPS programme is a promising approach for helping persons with PD and their relatives to achieve better self-management of disease and improved life satisfaction. Further evaluations of programme outcomes in clinical practice are warranted.

Relevance of clinical practice: Self-management programmes like the NPS is a promising approach in facilitating a positive mindset and outlook on life and gain knowledge to understand, adapt and handle chronic disease, such as PD, better.

Title: Assessing the validity of proxy caregiver reporting for potential palliative care outcome measures in Parkinson's disease

Citation: Palliative Medicine; Oct 2018; vol. 32 (no. 9); p. 1522

Author(s): Sebring, Kelly; Shattuck, Jo; Berk, Julie; Boersma, Isabel; Sillau Stefan; Kluger, Benzi M

Background: There is increasing interest in applying palliative care approaches for patients with Parkinson's disease. Methodological studies are needed to validate palliative care outcome measures for Parkinson's disease to build this evidence base. As many patients with Parkinson's disease have cognitive and/or communication issues, proxy outcome measures may improve the inclusivity and relevance of research.

Aim: To assess the validity of proxy caregiver reports for several potential palliative care outcome measures.

Design: A cross-sectional study of Parkinson's disease patients and caregivers completed a battery of outcome measures relevant to palliative care including the Memorial Symptom Assessment Scale, Hospital Anxiety and Depression Scale, Prolonged Grief Questionnaire 12, Parkinson Disease Questionnaire 39, Functional Assessment of Chronic Illness Therapy–Spiritual Wellbeing, and Schwab and England. Intraclass correlation coefficients were used to assess agreement.

Setting/participants: A total of 50 Parkinson's disease patient and caregiver dyads recruited at an academic medical center, Veterans Affairs Medical Center, and community support groups.

Results: There was moderate to good agreement for Schwab and England, Parkinson Disease Questionnaire 39 total, and majority of Parkinson Disease Questionnaire 39 subscales; moderate to good agreement for the Hospital Anxiety and Depression Scale, Functional Assessment of Chronic Illness Therapy–Spiritual Wellbeing, Prolonged Grief Questionnaire 12, and Memorial Symptom Assessment Scale; and poor to moderate agreement for the Parkinson Disease Questionnaire 39 stigma, social support, and bodily pain subscales. Caregivers tended to attribute higher symptom severity than patients. We did not detect differences in intraclass correlation coefficient based on cognitive status but patients with advanced illness had significantly lower intraclass correlation coefficients for several outcomes.

Conclusions: Caution is indicated when considering caregiver proxy reporting for most outcomes assessed, particularly in Parkinson's disease patients with advanced disease.

Title: Care Needs for Persons With Parkinson's Disease-Associated Dysphagia and Their Care Partners: State of the Science

Citation: Western Journal of Nursing Research; Oct 2018; vol. 40 (no. 10); p. 1563

Author(s): Edwards, Clara; Rose, Karen

Title: Physical Activity, Fatigue, and Sleep in People with Parkinson's Disease: A Secondary per Protocol Analysis from an Intervention Trial.

Citation: Parkinson's Disease (20420080); Sep 2018 ; p. 1-6

Author(s): Coe, S.; Franssen, M.; Collett, J.; Boyle, D.; Meaney, A.; Chantry, R.; Esser, P.; Izadi, H.; Dawes, H.

Abstract: Symptoms of Parkinson's can result in low physical activity and poor sleep patterns which can have a detrimental effect on a person's quality of life. To date, studies looking into exercise interventions for people with Parkinson's (PwP) for symptom management are promising but inconclusive. The aim of this study is to estimate the effect of a clearly defined exercise prescription on general physical activity levels, fatigue, sleep, and quality of life in PwP.

Method: PwP randomised into either an exercise group (29; 16 males, 13 females; mean age 67 years (7.12)) or a control handwriting group (36; 19 males; 17 females; mean age 67 years (5.88)) as part of a larger trial were included in this substudy if they had completed a 6-month weekly exercise programme (intervention group) and had complete objective physical activity data (intervention and control group). Sleep and fatigue were recorded from self-reported measures, and physical activity levels measured through the use of accelerometers worn 24 hours/day over a seven-day testing period at baseline and following the 24-week intervention. A Wilcoxon's test followed by a Mann–Whitney post hoc analysis was used, and effect sizes were calculated.

Results: Participants showed a significant increase in time spent in sedentary and light activities during the overnight period postintervention in both exercise and handwriting groups ($p < 0.05$) with a moderate effect found for the change in sedentary and light activities in the overnight hours for both groups, over time (0.32 and 0.37-0.38, resp.). There was no impact on self-reported fatigue or sleep.

Conclusion: The observed moderate effect on sedentary and light activities overnight could suggest an objective improvement in sleep patterns for individuals participating in both exercise and handwriting interventions. This supports the need for further studies to investigate the role of behavioural interventions for nonmotor symptoms.

Title: Breath test offers hope of early Parkinson's diagnosis.

Citation: British Journal of Healthcare Assistants; Sep 2018; vol. 12 (no. 9); p. 466-466

Abstract: The article reports on positive impact of breath test for early detection of Parkinson's disease and mentions views of Dr. Beckie Port, research communications manager, on diagnostic test for Parkinson's disease.

Title: Parkinson's Disease: Patients' Knowledge, Attitudes, and Interest in Genetic Counseling.

Citation: Journal of Genetic Counseling; Sep 2018; vol. 27 (no. 5); p. 1200-1209

Author(s): Maloney, Kristin A.; Alaeddin, Dina S.; von Coelln, Rainer; Dixon, Shannan; Shulman, Lisa M.; Schrader, Katrina; Guan, Yue

Abstract: The objective of this study was to assess the genetics knowledge of patients with Parkinson's disease (PD), and to explore their attitudes on genetic testing and interest in genetic counseling. We surveyed 158 patients from the University of Maryland Parkinson's Disease and Movement Disorders Center. Patients averaged a score of 63% on general genetics knowledge and 73% on PD genetics knowledge. Participants had an overall positive attitude toward genetic testing: 80% believed that the use of genetic tests among people should be promoted, and 83% would undertake genetic test for PD if it was available. Patients reported a high interest to discuss the benefits, risks, and impacts of genetic testing for PD (mean sum score = 26, range = 9-35), and 43% patients expressed interest in meeting with a genetic counselor. Multivariate regression analysis showed that patients who had more positive attitudes toward genetic testing for PD were more interested in meeting with a genetic counselor ($\beta = 0.6$, $p < 0.001$). This study is the first to demonstrate an interest in genetic counseling among patients with PD. Our findings demonstrate a new niche for genetic counselors to support patients in clarifying gaps or misconceptions in knowledge about PD genetics as well as the possible risks, benefits, and limitations of genetic testing.

Title: Personal computer-based cognitive training in Parkinson's disease: a case study.

Citation: Psychogeriatrics; Sep 2018; vol. 18 (no. 5); p. 427-429

Author(s): Maggio, Maria G.; De Luca, Rosaria; Maresca, Giuseppa; Di Lorenzo, Giuseppe; Latella, Desiree; Calabro, Rocco S.; Bramanti, Alessia

Abstract: Parkinson's disease (PD) is a neurodegenerative disorder that is best managed by a combination of medication and regular physiotherapy. PD's main symptoms involve the motor system, but cognitive disorders can be very severe as well. The aim of this study was to evaluate the effects of the computerized rehabilitative tool Esercizi di Riabilitazione Cognitiva (ERICA) in the cognitive recovery of a patient with PD. The patient was a 65-year-old man affected by PD with motor complications and severe cognitive and behavioural alterations. He underwent two different types of intensive rehabilitation training: standard cognitive rehabilitation alone and in combination with specific personal computer (PC)-based cognitive training. We evaluated his neuropsychological profile before and after the two types of training by using a specific psychometric battery. Only at the end of the PC training did we observe improvement in cognitive function as well as mood stabilization. When used in addition to standard cognitive rehabilitation, PC-based cognitive training may be a valuable tool in improving cognitive skills, with regard to attention, memory process, and executive functions. PC-based cognitive training may be able to help optimize managing the symptoms of PD.

Title: For Your Patients-Parkinson's Disease: To Drive or Not to Drive? New Data, Points to Discuss with PD Patients.

Citation: Neurology Today; Oct 2018; vol. 18 (no. 19); p. 67-69

Author(s): Fitzgerald, Susan

Title: The effects of respiratory muscle training on peak cough flow in patients with Parkinson's disease: a randomized controlled study.

Citation: Clinical Rehabilitation; Oct 2018; vol. 32 (no. 10); p. 1317-1327

Author(s): Reyes, Alvaro; Castillo, Adrián; Castillo, Javiera; Cornejo, Isabel

Objective: To compare the effects of an inspiratory versus and expiratory muscle-training program on voluntary and reflex peak cough flow in patients with Parkinson disease.

Design: A randomized controlled study.

Setting: Home-based training program.

Participants: In all, 40 participants with diagnosis of Parkinson's disease were initially recruited in the study and randomly allocated to three study groups. Of them, 31 participants completed the study protocol (control group, n = 10; inspiratory training group, n = 11; and expiratory training group, n = 10)

Intervention: The inspiratory and expiratory group performed a home-based inspiratory and expiratory muscle-training program, respectively (five sets of five repetitions). Both groups trained six times a week for two months using a progressively increased resistance. The control group performed expiratory muscle training using the same protocol and a fixed resistance.

Main measures: Spirometric indices, maximum inspiratory pressure, maximum expiratory pressure, and peak cough flow during voluntary and reflex cough were assessed before and at two months after training.

Results: The magnitude of increase in maximum expiratory pressure (d = 1.40) and voluntary peak cough flow (d = 0.89) was greater for the expiratory muscle-training group in comparison to the control group. Reflex peak cough flow had a moderate effect (d = 0.27) in the expiratory group in comparison to the control group. Slow vital capacity (d = 0.13) and forced vital capacity (d = 0.02) had trivial effects in the expiratory versus the control group.

Conclusions: Two months of expiratory muscle-training program was more beneficial than inspiratory muscle-training program for improving maximum expiratory pressure and voluntary peak cough flow in patients with Parkinson's disease.

Title: Mobility monitoring using smart technologies for Parkinson's disease in free-living environment.

Citation: Collegian; Oct 2018; vol. 25 (no. 5); p. 549-560

Author(s): Son, Heesook; Park, Won Seok; Kim, Hyerang

Background: Technological advances in the monitoring, intervention, and rehabilitation of Parkinson's disease have increased dramatically in recent decades. Integrating such technologies into free-living environments ensures continuous monitoring of patients' symptomatic movement for better assessment and provision of quality care.

Aim: To review studies testing the feasibility and usability of technology for continuous mobility monitoring among patients with Parkinson's disease in free-living environments.

Methods: Using electronic databases, 31 original studies were identified. We classified the mobility monitoring devices and systems used in the feasibility tests for monitoring Parkinson's disease during daily activities in free-living environments.

Findings: The choice of technology for Parkinson's disease management varied in its advantages, including cost, usability, design and functionality, or quality of information. The major developments in home monitoring approaches can be classified as: (1) wearable sensors only; (2) smartphone applications; (3) web-based applications combined with wearable devices; and (4) ambient sensors combined with wearable devices. The findings from this review suggest that mobility monitoring devices are highly feasible for monitoring the daily activities of patients in a habitual free-living environment. However, there are still relatively few studies testing the feasibility and effectiveness of such devices in free-living environments.

Conclusions: Experimental studies seeking to validate monitoring systems in unstructured real-life environments remain limited. However, the major findings of this study indicate that new technologies can be useful and supportive tools for Parkinson's disease related mobility monitoring. The use of these technologies for Parkinson's disease management may provide qualified clinical evidence and improve clinical decision-making and quality of care.

Title: Exercise for people with Parkinson's: a practical approach.

Citation: Practical Neurology (BMJ Publishing Group); Oct 2018; vol. 18 (no. 5); p. 399-406

Author(s): Ramaswamy, Bhanu; Jones, Julie; Carroll, Camille

Abstract: Exercise is key to a healthy and productive life. For people with Parkinson's, exercise has reported benefits for controlling motor and non-motor symptoms alongside the use of pharmacological intervention. For example, exercise prolongs independent mobility and improves sleep, mood, memory and quality of life, all further enhanced through socialisation and multidisciplinary team support. Recent research suggests that optimally prescribed exercise programmes following diagnosis may alter neurophysiological processes, possibly slowing symptom progression. Given its benefits, professionals should encourage and motivate people with Parkinson's to exercise regularly from the time of diagnosis and provide guidance on what exercise to do. We provide examples of how the growing body of evidence on exercise for people with Parkinson's is revolutionising the

services they are provided. We also highlight new resources available to help the wider support network (people such as volunteers, partners and friends of people with Parkinson's) with an interest in exercise promote a consistent message on the benefits of exercise.

Title: Tremor Types in Parkinson Disease: A Descriptive Study Using a New Classification.

Citation: Parkinson's Disease (20420080); Sep 2018 ; p. 1-5

Author(s): Gironell, Alexandre; Pascual-Sedano, Berta; Aracil, Ignacio; Marín-Lahoz, Juan; Pagonabarraga, Javier; Kulisevsky, Jaime

Background: The current classification of tremor types in Parkinson disease (PD) is potentially confusing, particularly for mixed tremor, and there is no label for pure resting tremor. With a view to better defining the clinical phenomenological classification of these tremors, our group relabeled the different types as follows: pure resting tremor (type I); mixed resting and action tremor with similar frequencies (type II) divided, according to action tremor presentation, into II-R when there is a time lag and II-C otherwise; pure action tremor (type III); and mixed resting and action tremor with differing frequencies (type IV). We performed a descriptive study to determine prevalence and clinical correlates for this new tremor classification.

Patient/Methods: A total of 315 consecutively recruited patients with PD and tremor were clinically evaluated. X2 tests were used to assess tremor type associations with categorical variables, namely, sex, family history of PD, motor fluctuations, and anticholinergic and beta-blocker use. With tremor type as the independent variable, ANOVA was performed to study the relationship between dependent quantitative variables, namely, age, age at PD diagnosis, disease duration, and UPDRS scores for rigidity.

Results: The studied patients had tremor types as follows: type I, 30%; type II, 50% (II-R, 25% and II-C, 25%); type III, 19%; and type IV, 1%. No significant association was found between the studied clinical variables and tremor types.

Conclusions: Mixed tremor was the most common tremor type in our series of patients with PD according to our proposed classification, which we hope will enhance understanding of the broad clinical phenomenology of PD.

Title: Deep brain stimulation improves restless legs syndrome in patients with Parkinson disease.

Citation: Neurology; Sep 2018; vol. 91 (no. 11); p. e1013

Author(s): Klepitskaya, Olga; Liu, Ying; Sharma, Saloni; Sillau, Stefan H; Tsai, Jean; Walters, Arthur S

Objective: To study the effect of subthalamic nucleus (STN) deep brain stimulation (DBS) in patients with Parkinson disease (PD) and moderate to severe restless legs syndrome (RLS) on their RLS symptoms.

Methods: Patients undergoing STN DBS surgery for PD completed the International RLS Study Group Rating Scale (IRLS) and RLS Quality of Life (QoL) questionnaires preoperatively and postoperatively at 6 months, 1 year, and 2 years. The primary outcome measure was IRLS sum score and subscales (severity and impact) and the secondary measure was RLS QoL scores. Differences among the mean scores over time were analyzed using mixed model regression.

Results: Twenty-two patients were enrolled. The preoperative IRLS sum scores were 19.59 ± 6.95 , severity subscale 12.91 ± 4.33 , impact subscale 4.45 ± 2.72 , and transformed RLS QoL score 68.30 ± 20.26 . The differences between preoperative and averaged postoperative scores were IRLS sum score -7.80 , severity subscale -5.50 , impact subscale -1.20 , and RLS QoL 4.73 . The overall F tests demonstrated differences among the times for the means of the IRLS sum and subscales: $p < 0.05$. There were no correlations between RLS symptoms improvement and PD motor symptoms improvement or reduction in PD medications. Half of the patients had at least 50% improvement and 27% had resolution of their RLS symptoms (IRLS = 0).

Conclusions: STN DBS significantly decreased RLS symptoms in patients with PD despite a decrease in dopaminergic treatment. This improvement was sustained over a 2-year period.

Classification of Evidence: This study provides Class IV evidence that for patients with PD and moderate to severe RLS, STN DBS improves RLS symptoms.

Title: Inappropriate Medication Use in Hospitalized Patients Diagnosed with Parkinson's Disease.

Citation: Pharmacy (Basel, Switzerland); Sep 2018; vol. 6 (no. 3)

Author(s): Cox, Nicholas; Louie, Jessica M; Sederholm, Benson H

Abstract: The purpose of this study was to evaluate the rate at which potentially inappropriate medications were administered for patients diagnosed with Parkinson's disease (PD). This is a single-center, retrospective, case cohort study with data collected at an academic medical center between January 2010 and December 2013. Participants included all adult patients with admission diagnosis codes for PD. Included patients were screened for administrations of 27 potentially inappropriate medications and two potentially appropriate medications to be used for comparison. There were 1736 patients who met inclusion criteria with 175 documented administrations of potentially inappropriate medications to 77 patients. Patients who received potentially inappropriate medications had a longer mean duration of stay than the baseline population of PD patients (3.3 days vs. 1.9 days, p -value < 0.001). Despite recommendations to avoid certain medications in PD patients, a substantial number of administrations still occurred. The use of these medications can have clinical implications and our findings demonstrate increases in duration of stay. The findings from this study can assist in developing technological alerts to reduce inappropriate prescribing to PD patients. Larger prospective studies are warranted to further investigate the administration of inappropriate medications to patients diagnosed with PD.

Title: Face-to-trait inferences in patients with Parkinson's disease.

Citation: Journal of clinical and experimental neuropsychology; Sep 2018 ; p. 1-9

Author(s): Hirai, Masahiro; Sakurada, Takeshi; Muramatsu, Shin-Ichi

Introduction: Parkinson's disease is a progressive neurological disorder characterized by the preferential loss of dopaminergic neurons in the substantia nigra, which project to the striatum. The disease is characterized by prominent motor symptoms, which are its cardinal features. Consequently, Parkinson's disease has been primarily considered a disorder of movement. However, increasing evidence has indicated that Parkinson's disease affects not only the motor domain but also the cognitive domain. Increasing evidence indicates that patients with Parkinson's disease have an impaired ability to recognize emotional facial

expressions. Recent studies have reported that other socially relevant information from faces, including face-to-trait inferences for traits such as dominance, competence, and trustworthiness, may be processed in subcortical regions, including the amygdala and caudate nucleus. However, the mechanism underlying the processing of face-to-trait inferences for these traits in patients with Parkinson's disease is still unknown. This study aimed to assess the face-to-trait inference ability in patients with Parkinson's disease.

Method: Face-to-trait inference ability was assessed using a forced-choice method in patients with Parkinson's disease and age- and sex-matched healthy controls.

Results: Overall correct face-to-trait inferences occurred significantly less frequently in the Parkinson's disease group than in the control group. Further analysis revealed a significant interaction between groups and the extent to which facial features were exaggerated.

Conclusions: The present results suggest that the sensitivity of face-to-trait processing was linear in the Parkinson's disease group but not in the healthy controls. These deficits may have resulted from dysfunction in subcortical regions, which may also lead to impairment in other social inferential abilities in patients with Parkinson's disease.

Title: High prevalence of parkinsonism in patients with MCI or mild Alzheimer's disease.

Citation: Alzheimer's & dementia : the journal of the Alzheimer's Association; Sep 2018

Author(s): Sasaki, Shoichi

Introduction: The objective of this study was to examine the prevalence of the coexistence of parkinsonism in patients with mild cognitive impairment (MCI) or mild Alzheimer's disease (AD).

Methods: Outpatients were evaluated with Mini-Mental State Examination, Clinical Dementia Rating Scale, NIA-AA criteria, MRI, and 123I-IMP SPECT (3D-SSP). Parkinsonism in patients diagnosed with MCI (Mini-Mental State Examination ≥ 24 , $n = 63$) or mild AD (Mini-Mental State Examination 20-23, $n = 43$) was examined using the Unified Parkinson's Disease Rating Scale-III and 123I-FP-CIT dopamine transporter SPECT.

Results: One hundred six patients (60-97 years) were enrolled. Fifty-six patients (52.8%) were diagnosed as having concomitant parkinsonism with rigidity and resting tremor and dopamine transporter reduction in the basal ganglia. The mean (SD) age ($n = 56$) was 80.6 (6.1) years, significantly older than patients without parkinsonism [77.6 (7.0) years, $n = 50$] ($P < .05$). The mean (SD) UPDRS-III score was 5.8 (2.4).

Conclusion: The prevalence rate of the coexistence of mild parkinsonism in MCI or mild AD may be higher than previously recognized.

Title: Information Content and Efficiency in the Spoken Discourse of Individuals With Parkinson's Disease.

Citation: Journal of speech, language, and hearing research : JSLHR; Sep 2018 ; p. 1-16

Author(s): Roberts, Angela; Post, Danielle

Purpose: This study compared the information content and information efficiency of spoken language in individuals with Parkinson's disease (PD) to a healthy comparator group.

Method: Nineteen participants with PD and 19 healthy older adults completed the prospective, cross-sectional study. In the primary analysis, 2 language samples elicited by

standardized protocols were analyzed for group differences using standard discourse informativeness measures including main events (MEs; Wright, Capilouto, Wagovich, Cranfill, & Davis, 2005) analyzed as %MEs and correct information units (CIUs; Nicholas & Brookshire, 1993) analyzed as %CIUs and CIUs/min. In exploratory analyses, the following were examined: (a) associations among conceptual (%MEs) and lexical (%CIUs and CIUs/min) measures and (b) associations among informativeness measures and age, education, disease severity/duration, global cognition, speech intelligibility, and a verb confrontation naming measure.

Results: In the primary analysis, the PD group differed significantly from the control group on conceptual (%MEs) and lexical measures of content (%CIUs) and efficiency (CIUs/min). In exploratory analyses, for the control group %MEs were significantly correlated with CIUs/min. Significant associations among conceptual and lexical measures of informativeness were not found in the PD group. For controls, there were no significant correlations between informativeness measures and any of the demographic or speech/cognitive/language variables. In the PD group, there was a significant and positive association between CIUs/min and Dementia Rating Scale-Second Edition scores (Mattis, 2001). A significant but negative correlation was found between CIUs/min and motor severity scores. However, %MEs and verb naming were significantly and positively correlated.

Conclusions: Individuals with PD without dementia demonstrated reduced discourse informativeness that reflects disruptions to both conceptual and lexical discourse processes. In exploratory analyses, reduced efficiency of information content was associated with global cognition and motor severity. Clinical and research implications are discussed within a Cognitivist framework of discourse production (Sheratt, 2007).

Title: Anxiety Independently Contributes to Severity of Freezing of Gait in People With Parkinson's Disease.

Citation: The Journal of neuropsychiatry and clinical neurosciences; Sep 2018 ; p. appineuropsych17090177

Author(s): Pimenta, Milla; Moreira, Dandara; Nogueira, Taísa; Silva, Carolina; Pinto, Elen B; Valenca, Guilherme T; Almeida, Lorena R S

Abstract: Freezing of gait is a disabling feature of Parkinson's disease, and it has been shown that nonmotor symptoms, such as anxiety and cognitive impairment, may be involved in the pathophysiology of the phenomenon. However, the association between freezing of gait severity and nonmotor symptoms is yet to be determined. Therefore, the overall aim of this study was to determine factors that contribute to severity of freezing of gait in people with Parkinson's disease. Participants (N=78) were assessed by disease-specific and self-report measures, including the Hospital Anxiety and Depression Scale (HADS), the Montreal Cognitive Assessment, and the Freezing of Gait Questionnaire (FOG-Q). Participants were classified as "freezers" if they scored ≥ 1 on item 3 of the FOG-Q; the sum of items 3-6 was used to determine freezing of gait severity. Freezers (N=27) showed higher scores on the HADS anxiety ($p=0.002$) and HADS depression ($p=0.006$) subscales. A multivariate linear model showed that disease severity (as measured by using the modified Hoehn and Yahr scale) accounted for 31% of the variance in FOG-Q severity scores ($p<0.001$). The presence of HADS anxiety ≥ 8 points increased the explained variance to 38% ($p=0.010$), and the full model (reached by adding the levodopa equivalent dose) explained 42% of the variance in freezing of gait severity ($p=0.026$). The findings provide additional support for the contribution of anxiety to greater freezing of gait severity, taking into account not only the frequency but the duration of the episodes, and suggest that anxiety should be routinely evaluated in people with Parkinson's disease who present with freezing of gait.

Title: Early ophthalmologic features of Parkinson's disease: a review of preceding clinical and diagnostic markers.

Citation: Journal of neurology; Sep 2018

Author(s): Turcano, Pierpaolo; Chen, John J; Bureau, Britta L; Savica, Rodolfo

Abstract: Non-motor symptoms in Parkinson's disease are an important cause of morbidity and may even precede the onset of the motor features of the disease. Visual abnormalities are among the most frequent non-motor symptoms observed during the early stages of the disease. Some of the visual symptoms of Parkinson's disease can likely be explained by the presence of dopaminergic neurons within the retina, where the progressive loss of dopamine and the accumulation of α -synuclein within the retinal layers leads to visual dysfunction, while some are caused by abnormalities in cortical visual processing. Many of these visual symptoms can be overlooked or go unrecognized. We review the visual symptoms in Parkinson's disease, including visual-processing and ocular motility abnormalities, stereopsis deficits, and visual hallucinations, focusing on the early stages of the disease. We focus on the reciprocal influence between the visual symptoms and the progression of the disease, analyzing the influence of dopaminergic therapy on the visual abnormalities. Finally, we discuss the possible role of some of these visual symptoms as possible markers or early diagnostic signs of the disease.

Title: Sex ratio in dementia with Lewy bodies balanced between Alzheimer's disease and Parkinson's disease dementia: a cross-sectional study.

Citation: Alzheimer's research & therapy; Sep 2018; vol. 10 (no. 1); p. 92

Author(s): Mouton, A; Blanc, F; Gros, A; Manera, V; Fabre, R; Sauleau, E; Gomez-Luporsi, I; Tifratene, K; Friedman, L; Thümmeler, S; Pradier, C; Robert, P H; David, R

Background: Gender distribution varies across neurodegenerative disorders, with, traditionally, a higher female frequency reported in Alzheimer's disease (AD) and a higher male frequency in Parkinson's disease (PD). Conflicting results on gender distribution are reported concerning dementia with Lewy bodies (DLB), usually considered as an intermediate disease between AD and PD. The aim of the present study was to investigate gender differences in DLB in French specialized memory settings using data from the French national database spanning from 2010 to 2015 and to compare sex ratio in DLB with that in AD, Parkinson's disease dementia (PDD), and PD. Our hypothesis was that there is a balanced sex ratio in DLB, different from that found in AD and PD.

Methods: We conducted a repeated cross-sectional study. The study population comprised individuals with a DLB, AD, PDD, or PD diagnosis according to the International Classification of Diseases, Tenth Revision, in the French National Alzheimer Database between 2010 and 2015. Sex ratio and demographic data were compared using multinomial logistic regression and a Bayesian statistical model.

Results: From 2010 to 2015 in French specialized memory settings, sex ratios (female percent/male percent) were found as follows: 1.21 (54.7%/45.3%) for DLB (n = 10,309), 2.34 (70.1%/29.9%) for AD (n = 135,664), 0.76 (43.1%/56.9%) for PD (n = 8744), and 0.83 (45.4%/54.6%) for PDD (n = 3198). Significant differences were found between each group, but not between PDD and PD, which had a similar sex ratio.

Conclusions: This large-sample prevalence study confirms the balanced gender distribution in the DLB population compared with AD and PD-PDD. Gender distribution and general

demographic characteristics differed between DLB and PDD. This is consistent with the hypothesis that DLB is a distinct disease with characteristics intermediate between AD and PD, as well as with the hypothesis that DLB could have at least partially distinct neuropathological correlates.

Title: Dyspnea: An underestimated symptom in Parkinson's disease.

Citation: Parkinsonism & related disorders; Sep 2018

Author(s): Baille, Guillaume; Chenivresse, Cécile; Perez, Thierry; Machuron, François; Dujardin, Kathy; Devos, David; Defebvre, Luc; Moreau, Caroline

Introduction: Dyspnea is one of the least well-characterized non-motor symptoms (NMS) associated with Parkinson's disease (PD).

Objective: To determine the frequency of dyspnea in a large, single-center cohort of consecutive PD patients with no history of lung or heart disease, and to compare clinical features in dyspneic vs. non-dyspneic patients.

Methods: Patients with abnormal cardiovascular and pulmonary results in a clinical examination were excluded. A positive response to at least one question ("In the last month, have you suffered from breathlessness?" and "In the last month, have you had trouble breathing normally?") was considered to signify the experience of dyspnea. MDS-UPDRS, global cognitive performance, non-motor symptoms and quality of life were assessed.

Results: In the cohort of 153 non-demented PD patients (mean age \pm standard deviation: 63.9 ± 7.4 ; mean disease duration: 9.2 ± 6.1 years), the mean [95% confidence interval (CI)] frequency of dyspnea was 39.2% (31.5-47). After adjustment for disease severity, PD patients with dyspnea had a significantly higher Movement Disorders Society Unified Parkinson's Disease Rating Scale part I, II and IV scores, a higher HAD anxiety and depression scores and a significantly higher 8-item Parkinson's Disease Questionnaire.

Conclusion: Dyspnea is a frequent NMS in PD. Its pathophysiology and prognostic value need more investigation.

Title: Frequency of mood and anxiety fluctuations in Parkinson's disease patients with motor fluctuations: A systematic review.

Citation: Movement disorders : official journal of the Movement Disorder Society; Sep 2018

Author(s): van der Velden, Rachel M J; Broen, Martijn P G; Kuijf, Mark L; Leentjens, Albert F G

Abstract: After 5 years of treatment with levodopa, approximately 40% to 50% of patients with Parkinson's disease (PD) develop motor complications such as dyskinesias or motor fluctuations. These are often accompanied by nonmotor fluctuations, such as fluctuations in mood symptoms. The aim of this systematic review is to assess the frequency of such mood fluctuations in PD patients with motor fluctuations and to explore the association between these mood fluctuations and motor fluctuations. We performed a systematic literature search in PubMed, Medline, and the Cochrane Library. This search yielded 10 studies, of which 9 were included after quality assessment. The frequency of anxiety fluctuations in PD patients with motor fluctuations ranged from 3.1% to 67.7% with a weighted mean of 35.4%. The frequency of fluctuations in depressive symptoms ranged from 2.1% to 71.4%, with a weighted mean of 34.9%. The frequency of fluctuations in symptoms of panic ranged from 3.1% to 54.5%, with a weighted mean of 37.1%. Symptoms of anxiety and depression are

mostly present in the "off" state. We conclude that mood fluctuations occur frequently in PD patients with motor fluctuations. The methodology used to assess mood fluctuation varies widely and there is a lack of a generally accepted assessment procedure for fluctuating symptoms. Research would benefit from a more uniform approach to assessment of nonmotor fluctuations. © 2018 International Parkinson and Movement Disorder Society.

Title: Clinical Predictors of Excessive Daytime Sleepiness in Patients with Parkinson's Disease.

Citation: Journal of clinical neurology (Seoul, Korea); Sep 2018

Author(s): Junho, Bruno Terra; Kummer, Arthur; Cardoso, Francisco; Teixeira, Antonio Lucio; Rocha, Natalia Pessoa

Background and Purpose: Excessive daytime sleepiness (EDS) is a common complaint among patients with Parkinson's disease (PD). Several factors have been associated with EDS in PD, especially neuropsychiatric symptoms. This study aimed to determine the relationships between neuropsychiatric symptoms, sociodemographic and clinical parameters, and EDS in PD.

Methods: This cross-sectional study analyzed 85 patients with PD. All patients underwent socioeconomic and clinical data evaluations followed by a psychiatric interview and a neurological examination, including the assessment of sleep features. Patients were divided into two groups according to the presence or absence of EDS, which was defined as a score higher than 10 on the Epworth Sleepiness Scale. Binary logistic regression was performed in order to describe the predictors of EDS.

Results: We found that EDS affects 40% of PD patients and is associated with older age, restless legs syndrome, depressive and anxious symptoms, and worse sleep quality. In the multivariate analysis, older age, levodopa use, and worse sleep quality remained as significant predictors of EDS in PD.

Conclusions: Nighttime sleep problems, older age, and levodopa use are significantly associated with EDS in PD. A careful assessment and the management of sleep problems in PD patients might help to improve their quality of life.

Title: A survey on computer-assisted Parkinson's Disease diagnosis.

Citation: Artificial intelligence in medicine; Sep 2018

Author(s): Pereira, Clayton R; Pereira, Danilo R; Weber, Silke A T; Hook, Christian; de Albuquerque, Victor Hugo C; Papa, João P

Background and Objective: In this work, we present a systematic review concerning the recent enabling technologies as a tool to the diagnosis, treatment and better quality of life of patients diagnosed with Parkinson's Disease (PD), as well as an analysis of future trends on new approaches to this end.

Methods: In this review, we compile a number of works published at some well-established databases, such as Science Direct, IEEEExplore, PubMed, Plos One, Multidisciplinary Digital Publishing Institute (MDPI), Association for Computing Machinery (ACM), Springer and Hindawi Publishing Corporation. Each selected work has been carefully analyzed in order to identify its objective, methodology and results.

Results: The review showed the majority of works make use of signal-based data, which are often acquired by means of sensors. Also, we have observed the increasing number of works that employ virtual reality and e-health monitoring systems to increase the life quality of PD patients. Despite the different approaches found in the literature, almost all of them make use of some sort of machine learning mechanism to aid the automatic PD diagnosis.

Conclusions: The main focus of this survey is to consider computer-assisted diagnosis, and how effective they can be when handling the problem of PD identification. Also, the main contribution of this review is to consider very recent works only, mainly from 2015 and 2016.

Title: Negative impact of severity of pain on mood, social life and general activity in Parkinson's disease.

Citation: Neurological research; Sep 2018 ; p. 1-6

Author(s): Rana, Abdul Qayyum; Qureshi, Abdul Rehman M; Haris, Asna; Danish, Muhammad Affan; Furqan, Muhammad Saad; Shaikh, Omar; Sarfraz, Zainab; Rana, Ruqqiyah

Objective: Pain is an important non-motor symptom of Parkinson's disease (PD); however, it remains understudied. The purpose of previous studies on the relationship between PD and pain, has been to explore the cause, origin and types of pain. This case control study is designed for clinicians and rehabilitation specialists to effectively identify pain from the patient's point of view. Pain present in PD patients correlates with significant disruption to their daily lives, which was seen by analysing characteristics, frequency, severity and interference of pain.

Method: A total of 100 PD patients and 100 control healthy individuals, consisting of 66 males and 34 females were evaluated during routine clinical assessment followed by a neurological exam. The Brief Pain Inventory (BPI) was used to measure chronic pain in terms of pain severity, pain interference and pain frequency between the two groups.

Results: It was determined that PD patients had significantly higher pain severity scores compared to controls ($p < 0.05$). PD patients with depressive symptoms had significantly higher pain severity and pain interference scores than controls without depressive symptoms. PD patients reported greater scores on Global BPI pain interference and all components of the pain interference subscale

Discussion: PD and depression seem to be correlated with higher perceived pain, severity and interference. These findings have not been reported by other case control studies, and warrant further causal research into pain, depression and PD

Title: Parkinson's disease: symptoms, treatment options and nursing care.

Citation: Nursing standard (Royal College of Nursing (Great Britain) : 1987); Sep 2018

Author(s): Cotterell, Phil

Abstract: Idiopathic Parkinson's disease (IPD) is a progressive neurodegenerative condition that causes various motor and non-motor symptoms and will often have life-changing effects for those with the condition, as well as for their family and carers. Nurses can make a significant difference to the lives of those affected by Parkinson's disease, whether in the acute setting, community setting or in care homes. This article explores the causes and progressive clinical pathway of IPD using an evidence-based approach. It emphasises the

valuable role of the multidisciplinary team and of the nurse, in particular, in monitoring and improving the quality of life of those with the condition and their family and carers.

Title: "It's a disease of families": Neurologists' insights on how to improve communication and quality of life for families of Parkinson's disease patients.

Citation: Chronic illness; Sep 2018 ; p. 1742395318799852

Author(s): Schwartz, Rachel; Zulman, Donna; Gray, Caroline; Goldstein, Mary K; Trivedi, Ranak

Abstract: Objectives Parkinson's disease presents an evolving challenge for patients and families due to an unpredictable disease trajectory and symptoms that complicate social interactions. In this study, we explore neurologists' perspectives on the challenges Parkinson's disease presents for families and the strategies they use to improve communication and quality of life. Methods We conducted hour-long semi-structured interviews with 16 neurologists at 4 care delivery institutions in the San Francisco Bay Area, focusing on techniques neurologists use to support families through the Parkinson's disease journey. Results Neurologists identified strategies for addressing caregiver-patient disagreements around symptom accuracy and negotiating driving safety. Family education is needed to contextualize patient symptoms and to identify psychosocial support resources. Unmet caregiver needs remain, particularly in the form of psychosocial support, respite care and support for unequal gender dynamics in the Parkinson's disease caregiving experience. Discussion Family members of Parkinson's disease patients face unique caregiving and interpersonal challenges due to the nature of the disease. Targeted education and structural support are needed to alleviate current burdens and allow for improved patient- and family-centered care.

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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