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Parkinson's Disease

Current Awareness Bulletin

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Jason Ovens
Library & Knowledge Service Manager

Healthcare you can Trust

Title: Treadmill Training for Individuals With Parkinson Disease.

Citation: Physical Therapy, 01 July 2012, vol./is. 92/7(893-897), 00319023
Author(s): Earhart, Gammon M., Williams, April J.

Abstract: <LEAP> highlights the findings and application of Cochrane reviews and other evidence pertinent to the practice of physical therapy. The Cochrane Library is a respected source of reliable evidence related to health care. Cochrane systematic reviews explore the evidence for and against the effectiveness and appropriateness of interventions--medications, surgery, education, nutrition, exercise--and the evidence for and against the use of diagnostic tests for specific conditions. Cochrane reviews are designed to facilitate the decisions of clinicians, patients, and others in health care by providing a careful review and interpretation of research studies published in the scientific literature. Each article in this PTJ series summarizes a Cochrane review or other scientific evidence resource on a single topic and presents clinical scenarios based on real patients to illustrate how the results of the review can be used to directly inform clinical decisions. This article focuses on a patient with mild to moderate Parkinson disease. Can treadmill training improve the gait of individuals with Parkinson disease?

Full Text:
Available in *fulltext* at ***EBSCOhost***
Available in *fulltext* at ***ProQuest***

Title: Prevalence of pain in Parkinson's disease: a systematic review using the modified QUADAS tool.

Citation: Movement Disorders, April 2012, vol./is. 27/4(480-4), 0885-3185;1531-8257 (2012 Apr)
Author(s): Broen MP, Braaksma MM, Patijn J, Weber WE

Language: English

Abstract: Pain has been studied more intensely as a symptom of Parkinson's disease (PD) in recent years. However, studies on the characteristics and prevalence of pain in PD have yielded conflicting results, prompting us to do a systematic review of the literature. A systematic review of the literature was conducted, using different databases. The last inclusion date was March 15, 2011. The modified Quality Assessment of Diagnostic Accuracy Studies (QUADAS) tool was used, which is especially designed for judging prevalence studies on their methodological quality. Only articles that met the predefined criteria were used in this review. We found 18 articles, of which only 8 met the methodological criteria. Prevalence frequency ranges from 40% to 85% with a mean of 67.6%. Pain is most frequently located in the lower limbs, with almost one-half of all PD patients complaining about musculoskeletal pain (46.4%). The pain fluctuates with on-off periods. Surprisingly, only 52.4% of PD patients with pain used analgesics, most often nonopioids. PD patients seem to be predisposed to develop pain and physicians should be aware of pain as a common feature of PD. As many as one-half of PD patients with pain may be missing out on a potentially useful treatment, and proper treatment could increase quality of life in PD patients. Copyright Copyright 2012 Movement Disorder Society.

Title: Rehabilitation or compensation: time for a fresh perspective on speech and language therapy for dysphagia and Parkinson's disease?

Citation: International Journal of Language & Communication Disorders, 01 July 2012, vol./is. 47/4(351-364), 13682822
Author(s): Smith, Sarah K., Roddam, Hazel, Sheldrick, Heulwen

Abstract: Background: Dysphagia is a common symptom of Parkinson's disease and can have negative consequences for physical health and quality of life. A variety of treatment options are available to clinicians working with people who have dysphagia and Parkinson's disease. These options can be broadly categorized as being compensatory or rehabilitative in nature. Aims: To explore the evidence behind treatment options available to clinicians working with dysphagia and Parkinson's disease and to draw conclusions about whether compensatory or rehabilitative approaches are likely to provide the best outcomes for our patients. Methods & Procedures: A critical literature review of compensatory and rehabilitative interventions for dysphagia in Parkinson's disease was undertaken. Relevant studies were analysed for their robustness and potential clinical applications. General conclusions were drawn based on the evidence base identified in this review. Main Contribution: This review outlines the lack of evidence supporting both compensatory and rehabilitative methods of treating dysphagia in Parkinson's disease. It directs clinicians and researchers towards areas that require further investigation. Conclusions & Implications: To date, compensatory methods of treating dysphagia in Parkinson's disease have received more research attention than rehabilitative methods and yet neither approach has a strong evidence base. This review argues that rehabilitative methods could possibly have greater potential to increase swallowing safety and improve quality of life in the long-term than compensatory methods alone. However, at present there is a lack of research in this area.

Title: Efficacy of integrated multidisciplinary care in Parkinson's disease

Citation: Neurorehabilitation and Neural Repair, July 2012, vol./is. 26/6(704), 1545-9683 (July-August 2012)
Author(s): Van Der Marck M.A., Bloem B.R., Mulleners W., Hoogerwaard E.M., Borm G.F., Overeem S., Munneke M.

Abstract: Background and Aims: Parkinson's disease (PD) is a complex disorder, with motor and non-motor symptoms. A multidisciplinary team approach is considered to be the optimal model to treat PD, but the evidence on effectiveness is limited. We designed a controlled trial to evaluate the clinical effectiveness of multidisciplinary care in PD compared to usual PD care. Method: Patients in the intervention group were offered an individually tailored 3-day multidisciplinary assessment, resulting in therapeutic recommendations, including referrals to specifically trained physiotherapists, occupational therapists and speech-language therapists working within the direct vicinity of the patient (ParkinsonNet). Patients in the control group received usual care. Inclusion criteria were idiopathic PD, HYstage <=4, age 20-80 years, living independently in the community, no severe co-morbidity and no dementia. Primary outcome measures were the averages of

the scores after 4, 6 and 8 months on PDQL (Parkinsonspecific quality of life scale) and ALDS (generic disability rating scale with 30 activities of daily living). The analyses were adjusted for baseline (ANCOVA) and were by intention-to-treat. Results: 301 patients participated, 150 in the intervention group and 151 in the control group. For the intervention group and control group respectively, mean age (years) was 66.5 and 69.3, average disease duration (years) 5.8 and 6.8, and percentage men 64% and 61%. In total, 101 patients within the intervention group used the opportunity to receive a multidisciplinary assessment. Adjusted for baseline, average PDQL scores over the months 4, 6 and 8 were significantly higher in the intervention group compared to the control group (difference 3.0, 95% CI 0.4-5.6). ALDS scores were not significantly different between the groups (difference 1.3, 95% CI -0.2-2.8). Conclusion: Integrated multidisciplinary care was significantly more effective compared to usual care. This study confirms our hypothesis that integrated multidisciplinary care has beneficial effects for patients with PD.

Title: Nutraceuticals and their preventive or potential therapeutic value in Parkinson's disease.

Citation: Nutrition Reviews, July 2012, vol./is. 70/7(373-86), 0029-6643;1753-4887 (2012 Jul)
Author(s): Chao J, Leung Y, Wang M, Chang RC

Abstract: Parkinson's disease (PD) is the second most common aging-related disorder in the world, after Alzheimer's disease. It is characterized by the progressive loss of dopaminergic neurons in the substantia nigra pars compacta and other parts of the brain, leading to motor impairment, cognitive impairment, and dementia. Current treatment methods, such as L-dopa therapy, are focused only on relieving symptoms and delaying progression of the disease. To date, there is no known cure for PD, making prevention of PD as important as ever. More than a decade of research has revealed a number of major risk factors, including oxidative stress and mitochondrial dysfunction. Moreover, numerous nutraceuticals have been found to target and attenuate these risk factors, thereby preventing or delaying the progression of PD. These nutraceuticals include vitamins C, D, E, coenzyme Q10, creatine, unsaturated fatty acids, sulfur-containing compounds, polyphenols, stilbenes, and phytoestrogens. This review examines the role of nutraceuticals in the prevention or delay of PD as well as the mechanisms of action of nutraceuticals and their potential applications as therapeutic agents, either alone or in combination with current treatment methods. Copyright 2012 International Life Sciences Institute.

Full Text:
Available in *fulltext* at ***EBSCOhost***

Title: Does in-patient neurorehabilitation live up to the expectations of patients with Parkinson's disease?

Citation: Neurorehabilitation and Neural Repair, July 2012, vol./is. 26/6(702), 1545-9683 (July-August 2012)
Author(s): Tomantschger V., Tautscher-Basnett A., Ederer C.H., Freimueller M.

Abstract: Background: There are guidelines for the medical and non-medical treatment of patients with Parkinson's Disease (PD) (e.g. NICE, 2006, KNGF, 2006; www.wfneurology.org, 2011). However, it is not clear if and how personal wishes and expectations of clients with PD are reflected in such guidelines. Aims: To find the relative importance of various aspects of in-patient neurorehabilitation and to shed light on their levels of fulfillment for clients with PD. Methods: Questionnaires about expectations concerning 10 aspects of neurorehabilitation were sent to 136 patients with the ICD-10-diagnosis G20, PD who were treated between 01/2009 and 12/2010 at the clinic. These were analysed in terms of degree of importance and fulfillment. Rate of return 49.3%; of these: 70% male, 30% female, 58% under the age of 70, 39% aged 71 and above, 3% no answer. Results: In chronological order of importance (i.e. % of clients rating with"very important"):"Illness-related patient-centered talks" 85%;"Fine-tuning of medical treatment" 78%;"Physiotherapy" 75%;"Parkinson discussion group" 57%,"Speech and language therapy" 53%,"Occupational therapy" 52%,"Supply of auxiliary aids" 50%,"Advice on auxiliary aids" 43%,"Recreational therapy" 37%. In addition, gender specific differences are found:"Fine-tuning of medical treatment" is"very important" for 82% males and 69% females."Recreational therapy" is"very important" for 43% males and 20% females,"Advice on auxiliary aids" is of"little importance" for 9% males and 33% females. Age specific differences are noted in"Fine-tuning of medical treatment" and the aspects concerning"Auxiliary aids" which in general are considered more important by the older client group. Conclusions: Highest priority is given to"Client-centered talks" in neurorehabilitation. Regardless of gender or age PD patients have a great need to talk about all aspects of their illness with the multidisciplinary team.

Title: The integrative care of Parkinson's disease: A systematic review

Citation: Journal of Parkinson's Disease, 2012, vol./is. 2/2(79-86), 1877-7171;1877-718X (2012)
Author(s): Prizer L.P., Browner N.

Abstract: Parkinson's disease (PD) is the second most common neurodegenerative disorder after Alzheimer's disease, and it is characterized by a complex variety of both motor and neuropsychiatric issues. Effective treatment of PD symptoms requires a combination of pharmacotherapy and allied health therapies; however, treatment is generally monodisciplinary, with the neurologist referring out to varied therapists as needed. In order to more effectively manage PD as it progresses over time, clinics are beginning to implement and advocate the use of more integrative models of care for PD. In order to understand the effectiveness of these models, a comprehensive literature review was conducted through electronic searches of PubMed, Academic Search Premier, PsycINFO, Health Source: Nursing/Academic Edition, AgeLine, AMED (Alternative Medicine), Health and Psychosocial Instruments, Health Source - Consumer Edition, and Social Work Abstracts databases. The review identified only two published studies, both of which only evaluated the effectiveness of multidisciplinary care in outpatient settings. The results of the studies indicated that multidisciplinary treatment led to marked improvement in patient outcomes; however, these results are limited as they measured short term outcomes only. The limited available evidence on the efficacy of integrative healthcare delivery models in PD should serve as a call-to-action for clinicians to work to improve the

care, and subsequently the quality of life, of PD patients through streamlining PD-specialized care with multiple complementary clinicians and incorporating patient preferences and goals into treatment. 2012 - IOS Press and the authors. All rights reserved.

Title: Home-based treadmill training for individuals with Parkinson's disease: a randomized controlled pilot trial.

Citation: Clinical Rehabilitation, 01 September 2012, vol./is. 26/9(817-826), 02692155
Author(s): Canning, Colleen G, Allen, Natalie E, Dean, Catherine M, Goh, Lina, Fung, Victor SC

Full Text:
Available in *fulltext* at ***ProQuest***

Title: Therapies in Parkinson's disease.

Citation: Current Opinion in Neurology, 01 August 2012, vol./is. 25/4(433-447), 13507540
Author(s): Jankovic, Joseph, Poewe, Werner

Abstract: PURPOSE OF REVIEW: This review examines currently available therapeutic strategies for Parkinson's disease, emphasizing evidence-based data as well as a patient-centered approach to the treatment of motor and nonmotor symptoms. RECENT FINDINGS: Although clinical trials of disease-modifying approaches have been thus far disappointing, steady advances are being made in the symptomatic treatment of Parkinson's disease. In this review, we focus on recent studies with monoamine oxidase type B inhibitors (selegiline and rasagiline), coenzyme Q10, creatine, and exercise in early Parkinson's disease. We also discuss the relative merits and disadvantages of delaying the initiation of levodopa therapy, the role of dopamine agonists, particularly ropinirole and pramipexole, and management of motor and behavioral complications, such as fluctuations, dyskinesias and impulse-control disorders. Novel formulations and delivery approaches for conventional and new drugs are also discussed. Finally, we review recent studies of surgical treatments of Parkinson's disease, such as deep brain stimulation. SUMMARY: Numerous clinical trials have provided evidence that health-related quality of life can be substantially improved with early diagnosis and institution of exercise and other physical measures, appropriate timing of dopaminergic therapy, and strategies to delay and treat levodopa-related motor complications and nonmotor Parkinson's disease-related symptoms.

Title: Emerging therapies for Parkinson's disease.

Citation: Current Opinion in Neurology, 01 August 2012, vol./is. 25/4(448-459), 13507540
Author(s): Poewe, Werner, Mahlknecht, Philipp, Jankovic, Joseph

Abstract: PURPOSE OF REVIEW: The experimental therapeutics of Parkinson's disease are reviewed, highlighting the current pipeline of emerging therapeutic approaches. RECENT FINDINGS: This review includes novel approaches to dopaminergic drug

delivery such as intraintestinal infusions or new extended-release formulations of levodopa and also intrapulmonary delivery of apomorphine as well as novel dopaminergic agents like the monoamine oxidase-B inhibitor safinamide or novel catechol-O-methyl transferase inhibitors. An even greater number of ongoing clinical trials assess the efficacy and safety of nondopaminergic approaches to enhance motor control or reduce motor complications like fluctuations and dyskinesias. These include adenosine A2A antagonists, [alpha]-adrenergic and serotonergic agonists as well as drugs acting on the glutamatergic system. Gene-based or cell-based intrastriatal delivery of therapeutic principles that enhance striatal dopaminergic transmission directly or via the stimulation of trophic activity has also reached phase II clinical development with encouraging results in some studies. Finally, a wide spectrum of agents with a potential for slowing disease progression is currently tested. SUMMARY: A variety of medical and nonmedical interventions in different phases of clinical development provide an interesting and promising portfolio of emerging therapies for Parkinson's disease.

Title: Neuromuscular electrical stimulation versus traditional therapy in patients with Parkinson's disease and oropharyngeal Dysphagia: effects on quality of life.

Citation: Dysphagia (0179051X), 01 September 2012, vol./is. 27/3(336-345), 0179051X
Author(s): Heijnen, B J, Speyer, R, Baijens, L W J, Bogaardt, H C A

Abstract: This study compares the effects of traditional logopedic dysphagia treatment with those of neuromuscular electrical stimulation (NMES) as adjunct to therapy on the quality of life in patients with Parkinson's disease and oropharyngeal dysphagia. Eighty-eight patients were randomized over three treatment groups. Traditional logopedic dysphagia treatment and traditional logopedic dysphagia treatment combined with NMES at sensor or motor level stimulation were compared. At three times (pretreatment, post-treatment, and 3 months following treatment), two quality-of-life questionnaires (SWAL-QOL and MD Anderson Dysphagia Inventory) and a single-item Dysphagia Severity Scale were scored. The Functional Oral Intake Scale was used to assess the dietary intake. After therapy, all groups showed significant improvement on the Dysphagia Severity Scale and restricted positive effects on quality of life. Minimal group differences were found. These effects remained unchanged 3 months following treatment. No significant correlations were found between dietary intake and quality of life. Logopedic dysphagia treatment results in a restricted increased quality of life in patients with Parkinson's disease. In this randomized controlled trial, all groups showed significant therapy effects on the Dysphagia Severity Scale and restricted improvements on the SWAL-QOL and the MDADI. However, only slight nonsignificant differences between groups were found.

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Title: Effects of divided attention on swallowing in persons with idiopathic Parkinson's disease.

Citation: Dysphagia (0179051X), 01 September 2012, vol./is. 27/3(390-400), 0179051X
Author(s): Brodsky, Martin B, Abbott, Katherine Verdolini, McNeil, Malcolm R, Palmer, Catherine V, Grayhack, Judith P, Martin-Harris, Bonnie

Abstract: The purpose of this study was to determine whether attentional resources are involved in swallowing in persons with idiopathic Parkinson's disease, and if so, in which phase(s) of swallowing. The approach involved a dual-task, reaction time (RT) paradigm using ten participants with Parkinson's disease. Single-task baseline measures were obtained for durations of the anticipatory phase and oropharyngeal phase of swallowing and RTs were obtained for nonword auditory stimuli. A dual-task then required participants to swallow 5 ml of water from an 8-oz. cup while listening for a target nonword presented auditorily during the anticipatory or oropharyngeal phase. Target stimuli were randomized across baseline and dual-task trials. Durations of the anticipatory and oropharyngeal phases of swallowing and RTs during baseline and dual-task trials were determined. Results showed a nonsignificant change in speed of completion for both the anticipatory phase and the oropharyngeal phase of swallowing during dual-task trials. However, there was a statistically significant increase in RT during the anticipatory phase during the dual-task condition. RT during the oropharyngeal phase remained unaffected. Given a need for additional research using more complex competing tasks, these data on attention are consistent with earlier claims of an automatic, nonresource-demanding, oropharyngeal swallowing mechanism that is preserved for persons with early-to-mid-stage Parkinson's disease. Clinical implications of these data suggest that disruptive environmental stimuli to individuals with early-to-mid-stage Parkinson's disease may alter feeding but have little effect on the oropharyngeal swallow.

Full Text:
Available in *fulltext* at ***Springer***

Title: Reproducibility and validity of patient-rated assessment of speech, swallowing, and saliva control in Parkinsons disease.

Citation: Dysphagia (0179051X), 01 September 2012, vol./is. 27/3(437-438), 0179051X
Author(s): Sasaki, Clarence T., Leder, Steven B.
Full Text:
Available in *fulltext* from *Dysphagia* at ***Springer***

Title: A Cane Improves Postural Recovery From an Unpracticed Slip During Walking in People With Parkinson Disease.

Citation: Physical Therapy, 01 September 2012, vol./is. 92/9(1117-1129), 00319023
Author(s): Boonsinsukh, Rumpa, Saengsirisuwan, Vitoon, Carlson-Kuhta, Patricia, Horak, Fay B.

Abstract: Background. Little is known about the effects of use of a cane on balance during perturbed gait or whether people with Parkinson disease (PD) benefit from using a cane. Objectives. The purpose of this study was to evaluate the effects of cane use on postural recovery from a slip due to repeated surface perturbations in individuals with PD compared with age- and sex-matched individuals who were healthy. Design. This was a prospective study with 2 groups of participants. Methods. Fourteen individuals with PD (PD group) and 11 individuals without PD (control group) walked across a platform that translated 15 cm rightward at 30 cm/s during the single-limb support phase of the right foot. Data from 15 trials in 2 conditions (ie, with and without an instrumented cane in the

right hand) were collected in random order. Outcome measures included lateral displacement of body center of mass (COM) due to the slip and compensatory step width and length after the perturbation. Results. Cane use improved postural recovery from the first untrained slip, characterized by smaller lateral COM displacement, in the PD group but not in the control group. The beneficial effect of cane use, however, occurred only during the first perturbation, and those individuals in the PD group who demonstrated the largest COM displacement without a cane benefited the most from use of a cane. Both PD and control groups gradually decreased lateral COM displacement across slip exposures, but a slower learning rate was evident in the PD group participants, who required 6, rather than 3, trials for adapting balance recovery. Limitations. Future studies are needed to examine the long-term effects of repeated slip training in people with PD. Conclusions. Use of a cane improved postural recovery from an unpracticed slip in individuals with PD. Balance in people with PD can be improved by training with repeated exposures to perturbations.

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