

**Conclusion:** The study identified a lower knee agonist-antagonist ratio in hypertensive older adults when compared to normotensive patients. Our findings are linked to changes in muscle functioning that reflect uncoordinated activation of knee agonists and antagonists, although such changes cannot be fully explained by a significant reduction in strength.

**Implications:** The understanding of hypertension and its impacts on muscle health contributes to a better understanding of the factors that cause and worsen the decline of muscle function in the older adults, in addition to being a potential contributor to the planning of health care strategies for the older people with a focus on the prevention and correct prescription of physical exercises.

**Keywords:** Aged, Hypertension, Muscle Strength

**Conflict of interest:** The authors declare no conflict of interest.

**Acknowledgment:** The authors thank the support of the University of Brasília - Faculty of Ceilândia -, FAPDF and the permission of all participants.

**Ethics committee approval:** Research Ethics Committee of the Federal University of Minas Gerais – CEP/UFMG (Opinion 492/07).

<https://doi.org/10.1016/j.bjpt.2024.100954>

369

## SLEEP QUALITY NEGATIVELY IMPACTS THE BALANCE OF ELDERLY PEOPLE WITH PARKINSON'S DISEASE

Patrícia Gonçalves Broto da Silva<sup>1</sup>, Larissa Alessandra Pereira<sup>1</sup>, Hayslenne Andressa Gonçalves de Oliveira Araújo<sup>2</sup>, Marcelle Brandão Terra<sup>2</sup>, Suhaila Mahmoud Smaili<sup>2</sup>

<sup>1</sup> University Hospital, State University of Londrina (HU-UEL), Curitiba, Paraná, Brasil

<sup>2</sup> Department of Physical Therapy, Postgraduate Program in Rehabilitation Sciences, State University of Londrina (UEL), Londrina, Paraná, Brazil

**Background:** Parkinson's disease (PD) is a progressive neurodegenerative disorder that affects more than 1% of people over 55 years of age. It is characterized by motor symptoms such as postural instability and increased risk of falls, and non-motor symptoms such as sleep disorders. Consequently, detailed evaluation and adequate management of these symptoms in this population, which is often underestimated, is extremely important.

**Objective:** To correlate sleep quality with balance and risk of falls in elderly with PD.

**Method:** Cross-sectional study composed by 22 elderly individuals with PD. To assess sleep quality, the Pittsburgh Sleep Quality Index (PSQI) and Epworth Sleepiness Scale (ESS) was used. To assess the risk of falls, FES-I was used. Postural control was assessed using the force platform (also associated with the dual task using the Strop test). To analyze the correlations between the variables, the Spearman correlation test was performed, considering  $p < 0,05$ .

**Results:** In the evaluation of sleep quality (PSQI) vs balance, correlations were observed between the domains: sleep duration, sleep quality and medication use. Regarding the sleep duration domain, there was a significant negative correlation in the tandem open eyes (OE) positions in the variables: COP area ( $r = -.468$   $P = .028$ ), AP amplitude ( $r = -.738$   $P = .000$ ), ML amplitude ( $r = -.527$   $P = .012$ ), AP velocity ( $r = -.588$   $P = .004$ ) and ML speed ( $r = -.444$   $P = .039$ ), tandem closed eyes (CE) in the variable: AP amplitude ( $r = -.545$   $P = .009$ ) and tandem of the variable: AP amplitude ( $r = -.645$   $P = .001$ ) and ML velocity ( $r = -.453$   $P = .034$ ). Compelling negative correlation was found in the tandem OE and tandem CE postures in the ML velocity variable, ( $r = -.514$   $P = .014$  and  $r = -.543$   $P = .009$ ) respectively. In the evaluation of excessive daytime sleepiness vs balance

there was a significant negative correlation in tandem OE and tandem CE, in the velocity variable ML, ( $r = -.514$   $P = .014$  and  $r = -.543$   $P = .009$ ) respectively.

**Conclusion:** Sleep quality and excessive daytime sleepiness are negatively correlated with balance in elderly people with PD, since the performance of these individuals in the applied tests were worse. There was no significant correlation between the risk of falls and balance in these individuals.

**Implications:** This study contributed to the understanding of the relationship between sleep and balance, thus a holistic preventive evaluation and effective therapeutic measures continue to be extremely decisive when managing these symptoms, for improvement in the functional autonomy and social participation of this population.

**Keywords:** Parkinson's Disease, Sleep, Balance

**Conflict of interest:** The authors declare no conflict of interest.

**Acknowledgment:** Neurofunctional Physiotherapy Research Group (GPFIN) and the support of the Coordination for the Improvement of Higher Education Personnel - (CAPES).

**Ethics committee approval:** Research Ethics Committee of the State University of Londrina (UEL), under approval opinion CEP-UEL n° 2.289.247.

<https://doi.org/10.1016/j.bjpt.2024.100955>

370

## EVALUATOR TRAINING DOES NOT INFLUENCE THE REPRODUCIBILITY OF OBSERVATIONAL METHODS FOR ANALYZING BIOMECHANICAL EXPOSURE

Patrícia Rodrigues da Silva<sup>1</sup>, Lyssa Sandy Medeiros Rodrigues Cirino<sup>1</sup>, Maria Padilha Alonso<sup>1</sup>, Daniela Pereira Valentim<sup>1</sup>, Rosimeire Simprini Padula<sup>1</sup>

<sup>1</sup> Department of Physical Therapy, Masters and Doctoral Program in Physical Therapy, Universidade Cidade de São Paulo (UNICID), São Paulo, São Paulo, Brazil

**Background:** The application of observational methods is evaluator dependent, and it is common for professionals working in the field of Occupational Health to apply them without any previous training. This can compromise or invalidate the evaluation results, as professionals can make serious mistakes when applying them without prior training.

**Objectives:** to assess whether the reproducibility of the QEC, REBA, RULA and SI methods is influenced by the evaluator's experience and training and to identify whether the evaluator's training modifies the reproducibility of the methods; and to evaluate the evaluators' perception about the use of observational methods in pre and post training.

**Methods:** This is a study of measurement properties. The study population consisted of analyzing 50 workers with different occupations whose work tasks were filmed for analysis by 11 evaluators, with different levels of experience in using the observational methods of the QEC, REBA, RULA, and SI methods used for analysis in the pre- and post-training. The training of evaluators for the application of observational methods was carried out in 4 modules. The total duration of the training including the modules and practical activities was 30 hours.

**Results:** There was moderate inter-rater reproducibility, both pre- and post-training, regardless of knowledge of the methods. The training effect was low. The impression about the use of the methods when evaluating working conditions showed that, in general, the QEC and RULA method was considered the easiest to understand, interpret and use with only the instructions for use, by the

most experienced evaluators, followed by those with more experience. moderate experience, while the inexperienced preferred the QEC and the REBA. The SI is the method considered the most difficult by all evaluators in pre-training. After training, the evaluators somewhat maintained their trends towards the easier pre-training methods, although they improved their impression of the SI, previously considered more difficult.

**Conclusion:** The conclusion of this study is that the evaluators do not agree with each other. The training of evaluators to use explicit observational methods interferes little with the identification of exposure to biomechanical risk in the occupational environment and has not shown an effect on changing the evaluation of occupational exposure for inexperienced evaluators, with moderate experience and experts.

**Implications:** By evaluating the need and influence of training for the use of observational methods of analysis of biomechanical exposure, we contribute to improving them by knowing the results of measurement properties.

**Keywords:** Ergonomics, Occupational Health, Risk assessment

**Conflict of interest:** The authors declare no conflict of interest.

**Acknowledgment:** This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001, Grant #2020/10164-4, 2021/05192-1; 2022/06045-5, São Paulo Research Foundation (FAPESP).

**Ethics committee approval:** Research Ethics Committee of Universidade Cidade de São Paulo - UNICID No 3.518.864.

<https://doi.org/10.1016/j.bjpt.2024.100956>

371

## SOCIODEMOGRAPHIC AND UROGYNECOLOGICAL PROFILE OF WOMEN ASSISTED IN THE PHYSIOTHERAPY SERVICE AT THE FEDERAL UNIVERSITY OF PARÁ

Paula Beatriz Santos Fonseca<sup>1</sup>, Maricleyde de Carvalho Macedo<sup>1</sup>, David Barroso da Costa<sup>1</sup>, Daiana Correa Sodré<sup>1</sup>, João Simão de Melo Neto<sup>2</sup>, Cibele Nazaré Câmara Rodrigues<sup>1</sup>

<sup>1</sup> Department of Physical Therapy, Federal University of Pará (UFPA), Belém, Pará, Brazil

<sup>2</sup> Postgraduate in Health Sciences, Faculty of Medicine of São José do Rio Preto (FMSJRP)

**Background:** Urogynecological dysfunctions represent deficits in the functionality of the pelvic floor muscles (PFMs). Among these comorbidities, urinary incontinence is the involuntary loss of urine and affects about 50% of women at some point in life, with increasing incidence in advanced age in women under 65 years old, stress urinary incontinence is a little more common, while women over 65 are more likely to have mixed incontinence. Deficient or inadequate function of PFMs is one of the etiological factors for urinary incontinence, directly impacting the quality of life and sexual quality in women. Pelvic organ prolapse (POP) is defined as a protrusion or herniation of the pelvic organs through the vaginal walls and pelvic floor. It affects women between 20-29 years old about 6%, while women aged 50-59 years old represent 31% with POP and 50% of women with POP are 80 years old or older.

**Objectives:** To describe the profile of patients assisted by physiotherapy in women's health in the proposed unit and to identify the main pathologies that most affect this population.

**Methods:** This is a cross-sectional study. All participants signed the Informed Consent Form (TCLE). The sample consisted of women with urogynecological disorders referred by doctors from hospitals and units of the Unified Health System (SUS) or sought the physiotherapy service at CASMUC, in the period 2022-2023.

**Results:** A total of 32 patients were admitted and treated at the outpatient clinic during the period. As for the sociodemographic profile, there was a higher prevalence of elderly women (60 years old or more) (31.3%), single (37.5%) with housewife occupation (28.1%). It appears that in the sample most of the patients went through 2 or 4 pregnancies (25% each). Therefore, this multiparity leads them to a greater risk of urogynecological dysfunctions due to the weakening of the MAP. Regarding urogynecological disorders, based on medical diagnosis, 21.9% had stress urinary incontinence, 18.8% mixed urinary incontinence, 12.5% pelvic organ prolapse, and 15.6% mixed urinary incontinence associated with pelvic organ prolapse.

**Conclusion and Implications:** This study allowed us to trace the sociodemographic and urogynecological profile of patients undergoing physiotherapeutic care at CASMUC, like others reported in the literature, being elderly women, housewives, multiparous with a predominance of stress urinary incontinence and with a medium level of education.

**Keywords:** Physiotherapy, Women's Health, Profile

**Conflict of interest:** The authors declare no conflict of interest.

**Acknowledgment:** Not applicable.

**Ethics committee approval:** Federal University of Pará (UFPA) under Opinion Number: 4,393,793

<https://doi.org/10.1016/j.bjpt.2024.100957>

372

## EFFECTS OF GRADED EXERCISE ON HYPERALGESIA IN PATIENTS WITH KNEE OSTEOARTHRITIS. PRELIMINARY RESULTS

Paula J F Venturini<sup>1</sup>, Filipe E Sette<sup>1</sup>, Marialice G Silva<sup>1</sup>, Natália A Casonato<sup>1</sup>, Stela M Mattiello<sup>1</sup>

<sup>1</sup> Department of Physical Therapy, Federal University of São Carlos (UFSCar), São Carlos, São Paulo, Brazil

**Background:** People with knee osteoarthritis (KOA) usually present pain sensitization, which impacts the experience of pain and predicts reduced quality of life and low responsiveness to treatments. A graded exercise has been proposed for the treatment of KOA. In this proposal, the practice of physical exercise should be within the individual possibilities, with the potential to remove the fear of exercising and thus create an adequate physical activity routine.

**Objectives:** This study aimed to investigate the effects of graded exercise on hyperalgesia in people with KOA compared to an educational control group.

**Methods:** Participants with primary symptoms of pain ( $\geq 4$  on a 0-10 scale) and clinical diagnosis of KOA were recruited. After explanations about the procedures, they signed a consent form and were assessed at baseline and after the intervention. Anthropometric data and pressure pain threshold (PPT) in the center patella at the more symptomatic knee were collected. Three measurements were performed with an algometer (ITO-2020, Japan), with the 30s intervals between measurements. The mean of them was used for statistical analysis. The participants were randomly assigned to 2 groups for the 14 weeks of intervention: The exercise group and the Education group. The Exercise group performed exercises 3 times a week and had individualized progression of the duration and intensity of the exercise. The session duration initially was of 15-25 minutes and in the end of the intervention of 55 minutes. The participants of exercise group were contacted weekly for evaluation of progress and referral of exercise videos. The educational group also was contacted weekly to clarify doubts. Both groups received educational materials and participated in lectures with health professionals. Two-way ANOVA SPSS (Statistical Package for the Social Science 26.0) was used to compare differences between groups using group-versus-time interaction analysis (significance of 5%).