



Figure 1. Satisfaction of participants based on the PSSUQ.

Materials and methods: PwP, dwelled in the community, in stages I to III on the Hoehn and Yahr scale (H&Y) participated in this study. Participants were characterized according to: disease staging (H&Y scale), clinical status (MDS-UPDRS), cognition (Mini-mental MMSE), balance (Berg Scale) and functionality (Timed Up & Go test). Study duration was planned for 3 months with nine practical sessions of 1 h. Participant satisfaction level was assessed based on replies to the Post-Study Usability Questionnaire (PSSUQ). Additionally, adherence to the sessions was assessed based on number of sessions attended or number of withdraws from the study. Anonymized patients data were analyzed after study approval by the Ethics Commissions of Cooperativa de Ensino Superior Egas Moniz.

Results: Ten PWP (7 Men) with mean age of 68 ± 5.4 years old participated in our study. All patients participated in all sessions with a 100% adherence rate. The mean value of satisfaction of the participants with the PSSUQ was 1.6 ± 0.41 . Replies with best scores included “overall satisfaction”, “interface was pleasant”, “information was effective”, “information for the system was easy”, “easy to find the information”, “information provided was clear” and lastly “comfortable using the system” (Figure 1).

Discussion and conclusions: Handling and use of the WiiSS was well received in our group of PwP, who were ambulatory and living in the community. Addressing knowledge requirements and perceptions relating to the handling of technology, as well as recognizing the challenges specific to this patient group in terms of need for more learning processes, may assist in increasing the use of such promising training devices as means of improving patients' physical, psychological and social well-being.

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The effect of assistive devices on gait patterns in Parkinson's disease: a pilot study

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Introduction: To assess the influence of 6 different assistive devices (ADs) on gait patterns in people with Parkinson (PwP) and the frequency and type of problems that arise from the use of each AD (i.e. freezing episodes; anxiety and/or panic attacks; stumbles and/or falls; patient perception of feeling safe; and patient level of satisfaction).

Materials and methods: Prospective, single-center pilot study involving PwP. Patients were consented in to the study and after were instructed to walk on a comfortable, self-selected, walking speed across the 2' by 16' Zeno walkway (ProtoKinetics, Havertown, PA). Spatiotemporal gait measures were collected when patients walked without and with different ADs: an aluminium straight cane (Cane); a tripod cane (TCane); a pair of Nordic walking sticks (NWS); a standard walker (StW); a two-wheeled walker (2WW) with fixed wheels and a four-wheeled walker (4WW) with front wheels casters. Gait parameters were analyzed and presented in a previous study [1]. This study was leaded through a Case Report Form (CRF) that included a self-perceived questionnaire about each AD approved by the Ethic Commission of the Cooperativa de Ensino Superior Egas Moniz.

Results: Fifteen PwP were included with a mean age of 65.2 ± 7.9 years old. Analysis of differences between gait parameters across ADs shows results [1] that were in line with previous findings in PD [2]. The information collected in CRF regarding patient perception of feeling safe and patient level of satisfaction with each AD was lined up with gait performance. Despite de fact participants did not like the idea of seeing themselves using a 4WW, because it looked like they were too dependent, 4WW (40%) and Cane (40%) were the ADs that gave more confidence when walking. Right after came the NWS (20%) described as the ones that most favors the gait, but it general opinion were not user-friendly at first contact.

Discussion and conclusions: The impact of different ADs in gait patterns should be considered when prescribing ADs to PwP. When walking with these ADs patients may encounter some difficulties but overall feel they improve their safety. In order to mitigate those difficulties and increase patients confidence a proper training must be carried with the AD to optimize the results of its use. Further research must be carried out to expand these finds.

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Acknowledgments

The authors would like to acknowledge all the PwP who voluntarily participated in this study.

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Exercise training in patients with chronic obstructive pulmonary disease. Effectiveness 10 years after participation

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Introduction: Patients with chronic obstructive pulmonary disease (COPD) may respond to exercise training in different ways compared to healthy subjects since the determinants of exercise limitation appear to be widely multi-factorial [1]. Such factors may include gas exchange abnormalities, dynamic lung hyperinflation, insufficient energy supply to the peripheral and respiratory muscles, morphological alterations in leg and diaphragm muscle fibers and reduced functional metabolic capacities [2]. The strength exercise can improve the respiratory muscle performance with potential positive effects on blood oxygenation, and consequently, muscular performance of patients with COPD [3]. The purpose of this study was to assess the effectiveness of attending an exercise program, combined (aerobic and strength exercise) or aerobic training alone in patients with COPD compared with subjects not submitted to exercise programs. The study was approved by the Ethics Committee of the Garcia de Orta Hospital and all participants gave their written informed consent prior to inclusion in the investigation.

Materials and methods: Thirty men with moderate COPD, were randomly assigned for two groups: 15 patients (age, 66.5 ± 6.2 years; FEV1, $55.8 \pm 9.9\%$) to a combined exercise training program (CG), and 15 (age, 65.4 ± 3.6 years; FEV1, $59.1 \pm 9.1\%$) to an aerobic training program (AG), for 10 weeks, three times a week. Outcome variables included cardiopulmonary function (cardiopulmonary exercise test (CPET) and 6-min walk distance (6MWD), muscular strength (1-RM); and quality of life (HRQL) with SF-36 and QRSF. Ten years after the programs, both groups were compared with ten patients who were not submitted to exercise programs, by evaluating health service recurrence (HSR) and mortality for respiratory cause.

Results: Both exercise groups increased ($p < .05$) functional capacity (CG, $24 \pm 16\%$, AG, $26 \pm 25\%$); O_2 pulse_{peak} (CG, $24 \pm 0.1\%$, AG, $21 \pm 0.2\%$); CPET time and power (CG, $28.6 \pm 8\%$ AG, $23.0 \pm 17\%$) 6MWD (CG, $12.7 \pm 4\%$; AG, $6.8 \pm 3\%$) and HRQL immediately after exercise, with greater benefits for the CG group ($p < .05$) in all variables. Ten years later, there were no differences between the exercise groups on mortality and HSR. Between exercise groups and subjects who did not integrate the program, there weren't differences on mortality, but there were significant differences on HSR ($p < .05$).

Discussion and conclusions: Combined exercise training was more effective than aerobic exercise alone with greater improvement in muscular strength, functional capacity and HRQL after program reducing morbidity by improving functional capacity through exercise. It is still unknown if improvements in functional capacity are maintained in the long-term