

# Using the Nintendo® Wii Fit™ plus platform in the sensorimotor training of freezing of gait in Parkinson's disease

Repercussão do uso da plataforma do Nintendo® Wii Fit™ plus no treinamento sensório-motor do freezing da marcha na doença de Parkinson

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Resumo da Tese de Doutorado apresentada junto ao Programa Stricto Sensu de Neurologia / Neurociências da Universidade Federal Fluminense/RJ (UFFRJ). O local de realização metodológica foi no Setor de Distúrbios do movimento Hospital Universitário Pedro Ernesto da Universidade Estadual do Rio de Janeiro (UERJ).

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Received 27 April 2013; Received in final form 16 May 2013; Accepted 23 May 2013.

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## ABSTRACT

Gait disturbances are one of the main limiting factors for autonomy and quality of life in individuals with Parkinson's disease (PD), and freezing of gait (FoG) is a common phenomenon that affects one-third of this population. Thus the effect of the implementation of a therapeutic program in a sensorimotor virtual environment through the Nintendo® Wii Fit™ plus platform on the motor impairment caused by FoG in individuals with PD is analyzed. A sample of 30 volunteers with PD was subdivided into a control group (CG), consisting of participants without FoG, and the experimental group (EG), consisting of individuals with FoG. Those selected were assessed before and after the experiment through the motor segment of the Unified Parkinson's Disease Rating Scale of daily activities by Schwab and England, the Quality of Life for PD, Time Up and Go Test, and the FoG identification questionnaire, the last one being only in the EG. The training was divided into three categories: aerobic (step and boxing), balance (ski slalom, ski jump, head shots and tightrope), and exercise plus (segway and cycling). Both groups improved gait performance, with significant improvement of the impairments originated by the FoG, as well as improvement in motor bouts, quality of life and independence in their daily activities.

**Keywords:** Parkinson's disease, freezing of gait, rehabilitation, Nintendo.

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