Posture and Gait Parkinson's Disease Scale (PG-PDS): validation study of a new specific rating scale in PD

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BACKGROUD:

Disorders of gait and postural changes are very frequent in patients with Parkinson's disease (PD), and strongly impact on patient's quality of life. Measuring these clinical features is critical in the assessment of PD patients and in treatment planning. The main rating scales used in clinical practice to assess gait disorders and postural changes in PD are Berg Balance Scale (BBS) and Tinetti Gait Assessment (TGA). However, these scales are aspecific, overloaded and incomplete, since they consider even aspect not characterizing PD and they omit pathology-related problems, as e.g. dual task, narrow passages and typical posture.
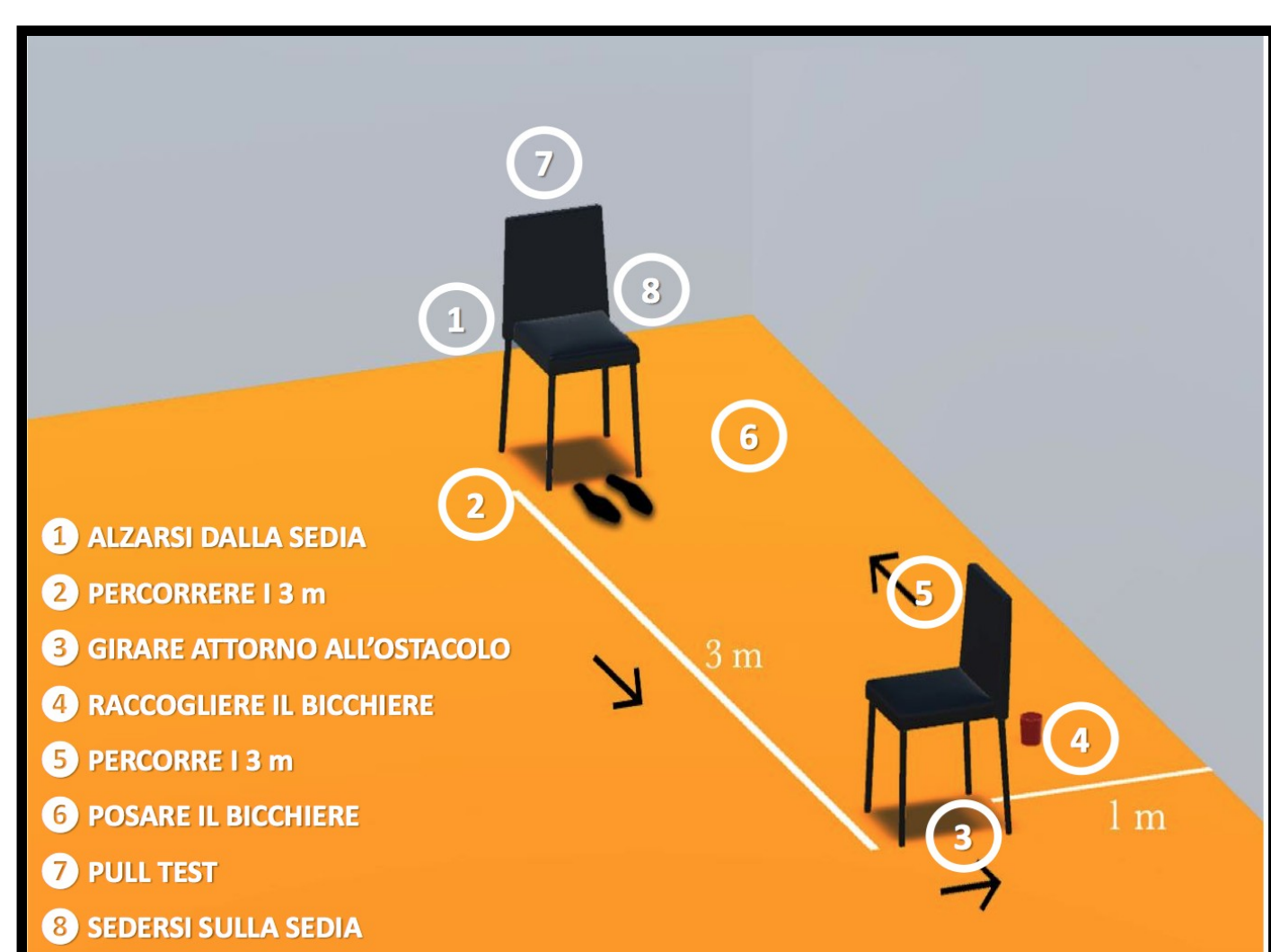
AIM

The aim of this study is to validate the **Posture and Gait Parkinson's Disease Scale (PG-PDS)**, a new instrument that assesses motor impairment, limitations to autonomy and risk of falling in patient with PD with particular attention to the gait disorders and postural abnormality typical of PD.

METHODS:

A 15-item scale was developed in order to cover all the facets of the construc of gait disorder and postural changes in PD. Patients with a confirmed diagnosis of PD were consecutively enrolled. A total of 82 subjects (62 patients and 20 age-gender matched controls) were enrolled.

Two assessors evaluated all the patients using a structured case report form including socio-demographic characteristics, disease history, treatments, PG-PDS, BBSm UPDRS II-III, Tinetti and FOGQ. The internal consistency of the scales were analysed and compared using the Cronbach's alpha (0,7-0,8: acceptable, 0,8-0,9: good, 0,9-1: excellent). The inter-rater reliability of the two observers was evaluated on a sample of 20 patients, calculating the Cohen's kappa (k). Construct and criterion validity was assessed by the Pearson r correlation.

RESULTS:

Internal Consistency: Cronbach α= 0.87

Inter-rater Reliability: Cohen k= 0.98

Construct and criterion validity: Pearson r

	PGPDS
PGPDS	1.0000
Tinetti	0.9016
Berg	0.8643
UPDRS II-III	-0.6418
FOGQ	-0.5961

CONCLUSIONS:

The results show that PG-PDS is a feasible and robust candidate instrument to motor assessment in PD, with good internal consistency, criterion and construct validity, and inter-rater reliability. It allows an immediate overview on motor problems so to be evaluated the medical treatment but also to plan the rehabilitation objectives considering major symptomatic manifestations emerged doing the test.

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