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Assessment tools for freezing of gait in patients with Parkinson's disease: a systematic review

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Introduction: Freezing of gait (FOG) is defined as brief and temporary absence or marked reduction of forward progression of the feet despite the intention to walk. FOG increases fall risk in patients with Parkinson's disease (PD), reducing their independence and significantly impairing their quality of life (QoL). For this reason, it is recommended an accurate evaluation of FOG to process a suitable rehabilitation program for individuals with PD.

Objective: The aim of this systematic review is to identify the rehabilitation outcome measures used to assess FOG in PD patients and describe their methodological qualities and cultural adaptations.

Methods: Three independent reviewers consulted Scopus, MEDLINE, Web of Science and CINAHL for literature search and no restrictions were applied regarding year of publication, country and language. The authors followed the guidelines of the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) and the methodological quality of selected study was assessed using the COSMIN Checklist. The following inclusion criteria were used for the selection of studies: quantitative studies evaluating psychometric properties of outcome measures; validation studies and cultural adaptation conducted on individuals affected by PD; studies published in languages understandable to reviewers.

Results: The search identified 627 matches. The three independent reviewers, after reading titles and abstracts and eliminating duplicates 119 studies were included; a careful reading of the full text was performed and 41 articles were included. The most used tool seems to be the FOG-Q (validated in several languages), but innovative tools for evaluation of FOG have also been identified.

Conclusions: All the included tools have good reliability, but further validations are necessary with a greater number of patients and in other languages to reach gold standards. Since FoG is a highly disabling disorder for patients with DP and difficult to measure, the development of new assessment tools is recommended.