

# The applicability of a portable electronic falls diary to assess fall frequency in Parkinson's disease.

WPC 2016

FACULDADE DE MEDICINA LISBOA

Instituto de Medicina Molecular Lisboa

CENTRO DE INVESTIGAÇÃO INTERDISCIPLINAR EGAS MONIZ

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## BACKGROUND

Although falling is a frequent occurrence in Parkinson disease, the best method(s) for measurement of falls remains unclear. Paper and electronic “falls diaries” are commonly used in health care and clinical research to assess the frequency and circumstances of falls and near fall events. However, there is a lack of objective documentation of the applicability of such diaries and limitations with respect to their use in both paper and electronic formats, which may ultimately affect the ability of these instruments to assess falls effectively.

## OBJECTIVE & METHODS

The aim of our study was to evaluate the applicability of an electronic diary when compared with a paper diary as a clinical measure of frequency of falls and near falls in individuals with Parkinson disease.

A single-center pilot study was conducted and approved by the local ethics committee.

Eight individuals with confirmed diagnosis of idiopathic PD according to the UK Brain Bank criteria and with a history of falls (in stage 2.5, 3 or 4 (ON) of the Hoehn and Yahr staging) were asked to complete a paper or an electronic diary at home for 8 weeks, with a crossover of the type of every 2 weeks (Fig.1). Diary applicability was evaluated by questionnaire.

## Electronic falls diary

The electronic falls diaries were small and lightweight instruments (fig.2) that were believed to offer some key advantages and increase technically the quality of self-reported information. It had a user-friendly format and an easy data entering process made by single touch on a button. Confirmation when entries were made was possible because they were time stamped. Data management was done through direct transfer of the clean data from participant's device to central database on the study visits. The use of this portable diary required detailed training. Written instructions were given to each participant.

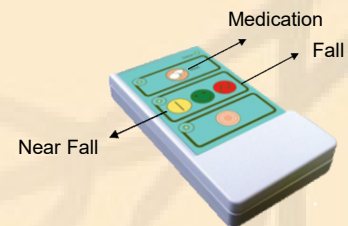


Fig. 2 – Electronic Falls Diary

## RESULTS

Our results showed that most participants were able to complete both types of falls diaries successfully. Compliance for registering entries into both diaries was high and 62.5% (5 in 8) of participants preferred to use electronic diary. Electronic diaries are as good as paper diaries in depicting participant's frequency of falls. In addition, electronic diaries provide an opportunity to control the quantity of data in a manner that is not possible with a paper format. Phone calls and including caregivers may complement diary use and compliance.

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## CONCLUSION

Frequent assessment of the falls in PD is important in both clinical and research. Electronic diaries with compliance-enhancing features may offer the capability of achieving and documenting good applicability in studies that use diaries for assessment of falls. Understanding the reason underlying why electronic diaries are preferred than paper diaries can allow us to streamline the use of electronic diaries even further.

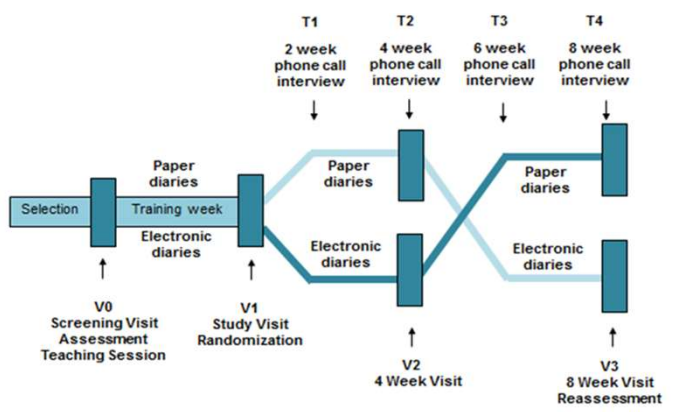


Fig.1 - Summary of Study Procedures