

Abstract submitted to ISPOR 2018 Asia Pacific Tokyo

Title

Cost-effectiveness of the PDSAFE home-based personalized physiotherapy intervention to prevent falls among people with Parkinson's: an economic evaluation alongside a randomised controlled trial

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Abstract

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OBJECTIVES

The PDSAFE is an individually tailored physiotherapist delivered balance and strengths training programme aiming to prevent falls among People with Parkinson's (PwP). The objective of this study was to evaluate the cost-effectiveness of the PDSAFE intervention compared with usual care for PwP who are at a higher risk of falling from a UK NHS and Personal Social Service (PSS) perspective.

METHODS

238 PwP were randomised to the intervention group receiving the 6-month physiotherapy sessions and 236 in control group receiving usual care (PDSAFE trial: ISRCTN48152791). Resource use and EQ-5D-3L data were collected at baseline, 3 months, 6 month, and 12 months. Missing data were imputed with multiple imputation. Generalized linear models were used to predict differences in costs and QALYs adjusting for baseline utility, baseline resource use, and the key

demographics and medical history variables. A 1000-iteration Bootstrapping was conducted to investigate the uncertainty surrounding the Incremental cost effectiveness ratio (ICER) estimate.

RESULTS

At six months, the intervention group is associated with an incremental cost of £925 (95%CI £429.0 to £1,432.9) and a 0.007 (95%CI -0.005 to 0.019) incremental QALY, leading to an ICER of £129,514 per QALY in base case analysis. The probability that the intervention was cost-effective at the £30,000 threshold was less than 1%.

Although not cost-effective in the overall population, subgroup analyses indicated that the PDSAFE intervention however appears likely to be cost-effective in the participants who were cognitively severely impaired (ICER=£8,438.6/QALY gained, probability to be cost effective=57.1%), and in the participants who had moderate severity of Parkinson's (ICER=£16,663/QALY gained, probability=53.4%).

CONCLUSION

PDSAFE was not likely to be cost-effective for the overall Parkinson's population however the differential effects of PDSAFE on the resource use and utility gain in subgroups of PwP indicates the importance of stratified and personalized management and recommendations for PwP.