EVALUATION OF A "WINDMILL TRAINER" DEVICE TO IMPROVE PEAK FLOW TECHNIQUE IN THE ELDERLY

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Introduction: Several devices are available to improve inhaler technique in the elderly. Elderly people are frequently observed as having poor peak expiratory flow (PEF) meter technique. The 'Windmill Trainer' has been shown to be of benefit in improving PEF technique in children (Knight A et al Thorax 1996:51, suppl.3 A61). The device is a plastic windmill which clips on the peak flow meter. If air is vented through the slot of the meter it spins the windmill. The aim of the study is to evaluate whether the 'Windmill Trainer' is of any benefit in improving PEF technique in the elderly.

Methods: Consecutive patients ≥60 yrs with an acute exacerbation of airflow limitation admitted to an integrated medical/elderly unit were assessed, usually within 2 days of admission. Patients were excluded if they were too unwell to participate (n=5); had never used a PFM previously (n=6); were unable to visualise the 'Windmill Trainer' adequately (n=4), or were unwilling to participate (n=3). The best of 3 attempts were assessed as satisfactory or unsatisfactory, before and after conventional teaching, and with the 'Windmill Trainer'.

Results: 63 patients (31 males; mean age 74 yrs; range 62-88 yrs), were assessed. 16/63 (25%) had satisfactory PEF technique at baseline assessment (mean PEF 180L/min); 39/63 (60%) had satisfactory PEF technique following conventional teaching (mean PEF 197L/min); 28/63 (44%) had satisfactory technique with the 'Windmill Trainer' (mean PEF 194). Of the patients whose technique remained unsatisfactory with conventional teaching (n=25), only one patient acquired satisfactory PEF technique with the 'Windmill Trainer'. In this patient there was no overall change in PEF recording (mean PEF before teaching 193 L/min; after teaching 190 L/min), and the patient had unsatisfactory PEF technique when re-assessed 3 days later.

Conclusion: The 'Windmill Trainer' proved to be of no benefit in improving PEF meter technique in elderly patients admitted to hospital with an acute exacerbation of airflow limitation.