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49 AMBULATORY ACTIVITY OF OLDER INPATIENTS ON ACUTE GERIATRIC MEDICINE WARDS

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Introduction: Accelerometers are often used to objectively measure physical activity in older people. We conducted a literature review which demonstrated few studies examining the ambulatory activity of hospitalised older people. We aimed to describe the pattern of ambulatory activity of older inpatients and evaluate the use of the StepWatch Activity Monitor (uniquely able to measure gait ≤ 0.4 metre/second) in this population.

Methods: An observational cross-sectional study was conducted on the acute Geriatric Medicine wards of one hospital. Inclusion criteria were patients aged ≥70 years, able to mobilise prior to admission and to provide written consent. Ambulatory activity was measured using the ankle-worn StepWatch Activity Monitor (SAM) for ≤ 7 consecutive days, recording the total step count per 24-hour day. The accuracy of SAM was examined by comparing measured and observed step count over 40 metres.

Results: 42 patients (mean age 87.5 years ± 4.6) had a median device wear time of 4 consecutive days (IQR 2–7 days) and median daily step count of 636 steps (IQR 298–1468 steps). Analysis demonstrated two peak periods of ambulatory activity, between 8am–12pm and 6pm–8pm. However, 33 patients (79%) were considerably mobile between 10pm and 6am, with a median step count of 94 steps (IQR 36–289 steps). A subgroup analysis of 13 patients (mean age 86.3 years, median gait speed 0.55metre/second) who completed the 40 metre walk demonstrated a mean absolute percentage error between the observed and SAM step count of 8.6% (SD 10.5). Bland-Altman analysis demonstrated good level of agreement between both measures (mean difference = −8.23 steps; CI -17.99 – 1.53).

Conclusions: Ambulatory activity was very low in this patient group who walked slowly. Despite the slow gait speed the SAM was an accurate measure of ambulatory activity in these older acute medical inpatients. An understanding of the variation in daily activity levels can help researchers and clinicians implement time-specific interventions to address this important issue.