



Characteristics of patients with COPD using mobile apps in daily life

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Abstract

There is growing evidence for the use of mobile health technology to support change in physical activity (PA) behaviour. However, studies in COPD have yielded mixed results, possibly because the contextual factors that characterise the use of mobile technology in COPD are not well understood. This study compared intrapersonal characteristics of patients with COPD who use mobile applications (apps) with those who do not.

Patients with COPD were eligible if they used smartphones. They were surveyed about their use of mobile apps (any app beyond calls/texts apps), and specifically, apps for PA promotion and for COPD management, performed a 4.5m gait speed test and used an accelerometer (ActiGraph GT3X+) for 7 days. Chi-square, Mann-Whitney U and T-tests were used to compare sociodemographic (age, sex, marital status, education, occupation), health-related (FEV1pp, gait speed, CAT, mMRC, 6MWT) and PA (step count; time in sedentary, light, moderate and vigorous PA) characteristics between patients using and not using mobile apps.

A total of 54 participants were enrolled (72% male; 67±8yrs; FEV1 48±18pp). 31/54 (57%) used mobile apps; from these, 15 (48%) used apps for PA promotion, 4 (13%) used apps for COPD management and 4 (13%) used both. Participants using mobile apps walked at a higher speed (Median [M] 1.49 [1.33-1.72] vs. M 1.31 [0.98-1.54]m/s; p=0.021) and spent more time in vigorous PA (M 0.49 [0.14-1.45] vs. M 0.12 [0.07-0.84]min/day; p=0.025) than those not using apps. No other differences were found.

Patients with COPD using apps presented higher functionality and PA behaviours than those not using them. Future studies should investigate possible explanations for these findings to inform future mHealth apps.

Footnotes

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