

CLAHRCBITE

Brokering innovation through evidence

Reducing sitting using wearable technology post-discharge for individuals with COPD



Results

The technology was acceptable to patients and helped them to break up their sitting. It remained difficult for patients to become more physically active following hospital discharge.

Who needs to know?

- Clinicians and other healthcare professionals
- People living with Chronic Obstructive Pulmonary Disease
- Researchers

What did we do:

33 patients were randomly assigned in-hospital to receive usual care, education about reducing their sedentary behaviour, or education plus real-time feedback on their sitting and activity at home through a waist-worn device linked to a mobile application, for 2 weeks following discharge. The wearable technology also provided vibration prompts to encourage movement at patient-defined intervals (e.g. after 30 minutes sitting). Interviews were conducted to understand how patients received the intervention.

What we found and what does this mean:

Each time patients responded to the vibration prompts provided by the wearable technology, it resulted in 1.5 minutes standing, 0.5 minutes walking (21 steps taken) in the preceding five minutes. Interviews illustrated that many individuals found it difficult to engage with the intervention immediately after being discharged because of multiple issues related to coping with health. They tended to engage with the intervention when it naturally fitted with their routines.

What next:

There is potential for digital health technologies to encourage a less sedentary lifestyle for people living with COPD. However, this challenge is notably more difficult for patients immediately after being discharged from hospital. The next steps would be to provide a behavioural intervention following discharge as a stepping-stone approach to encouraging patients to attend pulmonary rehabilitation.

Evidence:

Orme MW, Weedon AE, Saukko PM, Esliger DW, Morgan MD, Steiner MC, Downey JW, Sherar LB/Singh SJ. Findings of the chronic obstructive pulmonary disease-sitting and exacerbations trial (COPD-SEAT) in reducing sedentary time using wearable and mobile technologies with educational support: Randomized controlled feasibility trial. *J Med Internet Res.* 2018;20(4). <http://dx.doi.org/10.2196/mhealth.9398>

What is NIHR CLAHRC EM?

NIHR Collaborations for Leadership in Applied Health Research and Care (CLAHRCs) are collaborations between the NHS, universities and local organisations. Our goals are to conduct applied health research across the East Midlands and translate our research findings into improved outcomes for the public.

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