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Conference Abstract

Using technology to help people with Chronic Obstructive Pulmonary Disease (COPD) increase their physical activity – the ‘SMART3’ project

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Abstract

Introduction: There is increasing focus within healthcare on encouraging patients with long term conditions (LTCs) to become better self-managers. Effective self-management includes many factors such as symptom monitoring and the adoption of healthy lifestyle behaviours. Technology is frequently used to monitor vital signs of people with LTCs – however through 24 hour availability and the ability to set and monitor goals, it may also have the potential to help people with a wider range of self-management behaviours. The SMART Consortium (<http://thesmartconsortium.org/>) was established to investigate the potential of technology to aid self-management of LTCs, and has produced and evaluated several devices for LTC self-management. This research is now being extended to include COPD (‘SMART3’).

Aims and Objectives: The overall aim of the ‘SMART3’ project is to develop and evaluate a Personalised Self-Management System (PSMS) to help people with COPD self-manage their condition. The first phase explored the views of potential users of the technology to inform requirements for a prototype PSMS. Resultant strategies to increase exercise and activity are reported here.

Methods: A scoping review of the literature identified thirteen targets for COPD self-management, including ‘Increasing Exercise / Activity’. We qualitatively interviewed 15 people with COPD, 5 family members, and 7 relevant healthcare professionals. On-screen examples were given of ways in which technology could be used to support COPD self-management, e.g. a daily walk monitored using a smartphone. Participants were asked about their views of self-management and gave

opinions on the perceived desirability and effectiveness of the on-screen examples. Framework analysis was used to identify themes for ‘Increasing Exercise / Activity’.

Results: Bouts of targeted exercise (e.g. daily walk) and general activity for increased functioning were both identified as being important for COPD self-management. Goals which relate to both of these aims are important, e.g. a daily walk that increases in length each day to allow walking to the shop. The idea of a smartphone-monitored daily walk was well-liked due to its relevance for functioning and its ability to build exercise tolerance. However some participants stressed that the more general level of daily activity was also important. Healthcare professional involvement in helping the patient set goals, and clear instruction on how to work towards goals, are crucial for the device. Videos of exercises which can be followed at home were well-liked by participants as they were more informative and motivating than printed exercise sheets. Other additions for the prototype include advice (e.g. what to do if walking is difficult) and recording a reason if a planned activity is not completed. Although doubts were expressed about whether older people would be capable of using technology for self-management, many of the participants were open to the idea of technology, and this is likely to increase in future generations.

Conclusions: In the prototype PSMS we will attempt to address both targeted activity through a daily walk / exercise videos, and more generalised activity through use of a pedometer. The next phase of the research will incorporate user-centred design to further develop the resultant prototype.

Keywords

COPD; self-management; technology; physical activity
