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Can technology improve health outcomes in COPD patients?

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Telehealth interventions can be shown to improve health outcomes for patients with COPD but economic benefits are marginal. New technologies and models of care are therefore required. We undertook a feasibility study by recruiting 60 COPD patients into a randomised controlled trial to assess the impact of a robot in the home. The robot was capable of recording lung function, oximetry, questionnaires, and reminded patients to take the medications daily and to undertake regular exercise. Entertainment and relaxation functions were incorporated as well as educational measures to encourage healthy behaviour. The device was linked to smart inhalers (Adherium) that monitored patient adherence with inhaled therapy and a mobility app to monitor activity and sleep. There was also a method to allow the patient to communicate directly with the healthcare team. Data was regularly collected by the robot once a week and checked by the physiotherapists on the server. The patients randomised to usual care received smart inhaler evaluation to assess adherence but the information was not used to aid management. The hypothesis we are testing is that the group randomised to receive the robot will have fewer exacerbations and when they do develop worsening respiratory symptoms, will receive more rapid health care intervention and therefore fewer hospitalisations. We predict that the extra support will result in lower anxiety, reduced loneliness and improved adherence with both exercise and medical treatment. Outcome data will be in the final stages of collection at the time of the meeting and the main emphasis of this presentation will be on the intervention.

Biography

Jeff Garrett is an associate professor in respiratory medicine at University of Auckland, New Zealand. His research interest includes asthma, COPD, bronchiectasis, chronic cough, lung cancer, lung infections, endoscopy - bronchoscopy, immigration. He published 55 research papers in International Journals.

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