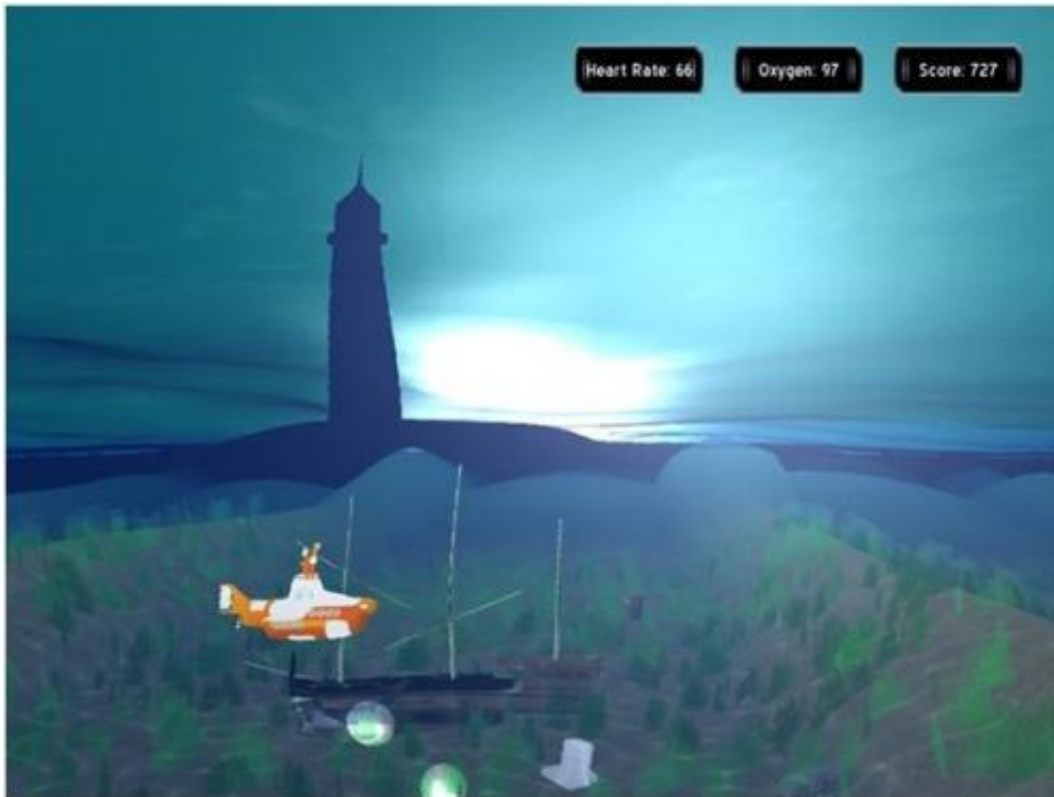


Coach app gets lung patients moving

February 10 2014



Encouraging physical activity is an essential objective in treating COPD (chronic lung disease), but current treatment methods do not manage to effectively improve patients' daily activity behaviour. This is because on the one hand, carers have too little awareness of the actual physical activity in patients' daily life and, on the other hand, there are no intensive treatments that continually help patients to become more

active. The results of the University of Twente doctoral degree candidate, Monique Tabak, who is also a researcher with Roessingh Research and Development, show that awareness of an individual patient's pattern of activity and a smart activity coach on a smartphone make a positive contribution to improving the daily activity behaviour of COPD patients.

COPD is a very common [chronic lung disease](#) and, unfortunately, an incurable one. Shortness of breath is one of the most important symptoms of COPD, which is why [patients](#) avoid activity as much as they can. This results in an inactive lifestyle, followed by a reduced health status. This negative sequence of events is aggravated by exacerbations (flare-ups). The fact that current methods of treatment are not given in the environment in which patients spend their daily lives may be contributing to their limited efficacy. Telemedicine – the use of ICT for providing long-distance care – can make it possible to provide such treatment in patients' daily lives.

Monitoring activity behaviour

The research that has been carried out within Roessingh Research and Development shows that patients with COPD are demonstrably less active in comparison with healthy people. Moreover, the pattern of activity of COPD patients has been shown to be less evenly distributed throughout the day. The patients do not seem to be aware of their level of activity (which is too low) either. This is why monitoring their activity behaviour and providing them with feedback based on their behaviour is so important.



A new approach: the ActivityCoach

The ActivityCoach has been developed in order to improve their daily activity. An activity sensor to measure activity and a smartphone to receive feedback. This feedback is comprised of an activity graph showing the activity measured and the target level of activity. In addition, patients also receive encouraging text messages on their smartphone. A game has also been created as an extra incentive: the 'orange submarine game', in which the submarine illustrates your activity levels.

The research shows that the ActivityCoach is making a positive contribution to improving patients' level of activity: feedback messages are being followed up properly, and regular use of the activity coach is

leading to a more active lifestyle.

Telemedicine programme



The ActivityCoach has also been integrated into a [telemedicine](#) programme, the aim of which is to improve daily activity and the self-management of exacerbations. This involves patients registering their symptoms via a web-portal, after which they received automatically generated advice to start taking their medicine immediately in the event of an imminent exacerbation. The web-portal includes an online exercise

programme with videos of physiotherapeutic exercises and it offers the chance to request a tele-consultation. This programme has been used for 9 months in both primary and secondary health care. The results show promising alterations in clinical outcome parameters and patients are satisfied with the care they received.

A step in the right direction towards a new treatment

The doctoral degree research shows that telemedicine supports COPD patients in achieving a healthy, active lifestyle and in treating exacerbations themselves. The challenges ahead are to develop intelligent technology further and fully implement telemedicine in the care of COPD.

Provided by University of Twente

Citation: Coach app gets lung patients moving (2014, February 10) retrieved 20 April 2024 from <https://medicalxpress.com/news/2014-02-app-lung-patients.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--