Telemedical monitored training for patients with chronic pulmonary disease

Sohrabi K., ThoraTech GmbH, Gießen, Germany
Leiche L., IfM GmbH, Wettenberg, Germany
Weissflog A., ThoraTech GmbH, Gießen, Germany
Schneider H., TH-Mittelhessen-University of Applied Sciences, Gießen, Germany
Koehler U., Division of Respiratory and Critical Care Medicine, Philipps-University Marburg, Germany
Gross V., TH-Mittelhessen-University of Applied Sciences, Gießen, Germany
volker.gross@kmub.thm.de

In German adults there is an estimated prevalence of chronic obstructive pulmonary disease (COPD) of 10 to 15%. Providing health care services via telemedicine opens new possibilities and offering cost efficient solutions for monitoring, assistance, and even training for patients with COPD. Particularly patients with severe COPD can benefit physical and physiological from moderate fitness training. A good understanding of their disease and a constant and adequate communication from the therapist to the patient and vice versa will improve not only therapy compliance but also the patients self management abilities.

The new telemedical care concept for patients with COPD, referred to as Tele-Therapist, is taking these experiences into account. The Tele-Therapist can measure various relevant parameters and transmit appropriate vital data securely from patient’s home to an automated central unit. Here the data will be filtered out, interpreted and compared with e.g. patient’s fitness data, and finally forwarded to the appropriate support systems.

An innovative locomotion recognition system will be an additional part of the Tele-Therapist and allows both, the monitoring of the rehabilitation&training@home, and furthermore it also will provide the feedback&education@home system for patients. By using the platform of the Tele-Therapist, specialists can give support and recommendations for therapy, and can even answer questions to the patients. First results on the new telemedical conception indicate high patient acceptance of Tele-Therapist technology.

The concept seems to have a good chance to improve the care of severe COPD patients at home, and reduces hospitalization.