N008 - Myotel : A myorelaxation-feeback based tele-treatment for neck and shoulder pain

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SUMMARY

MyoTel; an example of Telerehabilitation.

Because of increase of costs in health care ICT possibilities become very important in the near future. Colleague consultation, patient consultation, monitoring health status and supervised training are already existing examples.

Ageing and increase of chronic diseases will force to use these methods of Telerehabilitation. Otherwise 25 % of the people will have to work in health care to treat these patients.

The goals of these rehabilitation treatments are quality of care, at least as well as traditional

care against lower costs. Other advantages are to translate skills to every day life more easily and to exercise more at moments preferred by the patients. It fits in the current trend of self management.

MyoTel is such a telerehabilitation treatment. It addresses motor behaviour of patients with non specific neck- and shoulder pain by assessing and feedback surface EMG (sEMG) in the daily environment. Patients with chronic pain show abnormal muscle activation. Recruitment of motor units is fixed (first small, then larger). In case of continuous little activation the small, first recruited motor units get exhausted and harmed (Cinderella hypothesis). Patients with pain have insufficient muscle relaxation and that contributes to muscle pain and damage.

By measuring sEMG patients get feedback, change their behaviour and as a consequence they experience less pain. By wearing a garment with electrodes and using a PDA it is possible to give the feedback continuously or by advice of a professional. It is even possible to use the system during work.

The system is fully ambulant, does not interfere with activities of daily life. Pain intensity and disability decreased significantly after 4 weeks of intervention.

Results are at least or even more positive in comparison with traditional feedback.

Conflict of interest: none.