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initiative has a return on investment rate of 75% per month. Besides, the study discovered a significant reduction of waiting times for a report from 14.7 days to around one hour.

**Conclusion:** Building an eCardiological centre in order to provide on time tele-ECG diagnosis to a whole state is an extremely worthwhile strategy to be implemented in developing countries. This practice must be included in public health policies due to the important savings it brings to the public treasury. Furthermore, due to a huge reduction in the waiting time for a report through tele-ECG technology, the method allows the speeding up of the adoption of appropriate therapy.

**Category:** 08. Risk Factors, Rehabilitation and Prevention

**Contact:** Wallner Kurt

**Telerehabilitation in coronary artery disease** (TRIC-study): 12 months data

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**Background/Objective:** The aim of the study was to evaluate the safety and feasibility of home-based telerehabilitation for patients with uncomplicated coronary artery disease (CAD).

**Methods:** This non-randomised parallel group study assigned 45 male patients for shortened 2 weeks inpatient rehabilitation followed by a 10-week telerehabilitation programme (TRG) versus 47 patients who completed a conventional 4 weeks inpatient rehabilitation programme (CG). After one year we evaluated 41 patient in the TRG and 45 patients in the CG. Outcome measures were assessed at baseline and after 12 months using cardiopulmonary function (Watt (W)peak, W peak/kgBW) and quality of life (HADS; Short Form 36).

**Results:** No statistical difference was observed between the two groups at baseline. After 12 months in the TRG, W peak decreased by 7.4% (P < 0.001), W peak/kg BW decreased by 11.2% (P < 0.001), WVAT1 (ventilatory aerobic threshold 1) decreased by 0.7% (P = 0.012), VO2peak/kg (bodyweight), WVAT1 (ventilatory aerobic threshold 1), VO2peak/kg, VO2 VAT1/kg, W@L(lactate) 2 mmol/l, W@L(lactate) 4 mmol/l, laboratory parameters (total cholesterol (TC), high density lipoprotein (HDL)-cholesterol; low density lipoprotein (LDL)-cholesterol; TC/HDL-cholesterol quotient), physical parameter (BW; body mass index (BMI), waste circumference (WC), body fat (BF)), and quality of life (HADS; Short Form 36).

**Conclusion:** Accordingly, home-based telerehabilitation can be regarded as safe and feasible for patients with uncomplicated CAD. In addition, we could show significant improvements due to physical fitness and change in risk factors in the TRG compared to regular 4-week inpatient rehabilitation.

**Category:** 09. Remote Patient Management: Heart Failure and Devices

**Contact:** Desteghe Lien

**Telemonitoring-based feedback improves adherence to non-vitamin K antagonist oral anticoagulant intake in patients with atrial fibrillation**

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**Background:** Effective thromboembolic prevention with non-vitamin K antagonist oral anticoagulants (NOACs) requires a strict therapy adherence given the half-lives of these drugs of about 12 hours. Systematic monitoring of anticoagulation or medication intake is not performed in NOAC patients. Initiatives are needed to monitor and/or improve adherence to NOAC therapy. The purpose of this study is to investigate the effect of personalised feedback, based on telemonitoring of medication intake, on adherence to NOACs in patients with atrial fibrillation (AF).
Methods: In total, 48 AF patients (mean age 72 ± 9 years; 24 on a once daily (OD) NOAC (rivaroxaban) and 24 patients on a twice daily (BID) NOAC (apixaban)) were enrolled in a randomised, single-blind, crossover, controlled trial. The medication event monitoring system (MEMS; WestRock, Switzerland) was used to measure NOAC adherence. Patients were assigned to an observation phase and a feedback phase of 3 months each, in random order. Adherence data were checked on weekdays through telemonitoring. During the feedback phase, patients received a phone call in the case of an ‘unprotected day’ (i.e. three or more consecutive missed doses for a BID NOAC, one or more missed doses for a OD NOAC or excess doses during the prior 24 hours). Taking adherence (i.e. proportion of prescribed doses taken), regimen adherence (i.e. proportion of days with the correct number of doses taken) and the number of unprotected days were calculated, based on the MEMS data. After 6 months, a questionnaire was used to evaluate the study experience.

Results: A 98% persistence was obtained as no patient stopped NOAC treatment. One patient was switched to VKA after 3 months due to a venous thrombus. Active telemonitoring observation already led to a very high adherence, with a taking adherence of 97.4% and a regimen adherence of 93.8%. Nevertheless, direct telephone feedback further improved the adherence: taking adherence increased with 1.6% to 99% (\(P < 0.001\)) and regimen adherence with 3% to 96.8% (\(P = 0.001\)). The number of unprotected days during 3 months decreased from 2.6 to 1.5 (\(P = 0.125\)). Both during the observation and the feedback phase, taking adherence was higher with the OD NOAC (\(P < 0.001\) and \(P = 0.018\), respectively) although unprotected days were similar (\(P = 0.272\) and \(P = 0.251\), respectively). Study experience was positive as 87.2% of the patients found the MEMS monitor practical to use, 63.8% indicated that the study increased their awareness to take their medication at the correct time, and 97.6% of the patients who received a phone call indicated telephone feedback as useful.

Conclusion: Telemonitoring showed an unexpectedly high adherence to NOACs in an elderly unselected population. This may be related to highly motivated patients but certainly also to the sense of being watched. However, telemonitoring-based feedback further optimised the adherence, which may be a valuable approach in selected patients deemed poorly adherent in clinical practice.