

Comparison between center-based cardiac rehabilitation and home-based telerehabilitation regarding short-term health outcomes

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Cardiovascular diseases (CVD) remain a leading cause of death globally. Both traditional center-based CR (cbCR) and cardiac telerehabilitation (teleCR) aim to educate and promote positive health behaviours, showing comparable outcomes in exercise capacity, mortality, cardiovascular (CV) risk factors, and quality of life. This study compares patient populations choosing cbCR or teleCR with regard to effectiveness for CV risk factors at a tertiary center in Switzerland, where CR is reimbursed by compulsory health insurance.

This study compared two clinical cohorts using data from the Bern Rehab registry. It included cardiac patients enrolled in a 3-month ambulatory CR program at the Centre for Rehabilitation & Sports Medicine, University Hospital of Bern, between May 2022 and December 2023. Patients chose between ambulatory cbCR (three weekly exercise sessions at the center) and teleCR (one weekly session at the center and two at home). Patients had two visits, at the beginning and end of the program, where body composition, blood pressure, blood samples, and cardiopulmonary exercise testing (CPET) were conducted. Changes in outcome parameters with CR were compared between groups by linear mixed models adjusted for confounders.

A total of 291 cbCR and 115 teleCR patients were included. TeleCR patients were younger by three years compared to cbCR patients and exhibited higher baseline peak VO₂, better quality of life, and less depression and anxiety. Adjusted models showed similar improvements in all outcome parameters over the CR period ($p > 0.05$). Compliance rates were similar across age groups and CR modalities. The proportion of patients meeting systolic blood pressure targets slightly decreased in both groups, while the percentage meeting low-density lipoprotein (LDL) targets improved considerably. However, LDL step I targets were only achieved in 69 % and 56 % in cbCR and teleCR patients, respectively.

TeleCR leads to equivalent results regarding CV risk factor profile as cbCR at a tertiary hospital in Switzerland. It is chosen by younger and fitter patients with higher quality of life and less depression and anxiety, with no difference between sexes.

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