

The prognostic effect of cardiac rehabilitation

Based on : Bernhard Rauch, Constantinos H Davos, Patrick Doherty, Daniel Saure, Maria-Inti Metzendorf, Annett Salzwedel, Heinz Völler, Katrin Jensen, Jean-Paul Schmid, the 'Cardiac Rehabilitation Section', European Association of Preventive Cardiology (EAPC), in cooperation with the Institute of Medical Biometry and Informatics (IMBI), Department of Medical Biometry, University of Heidelberg, and the Cochrane Metabolic and Endocrine Disorders Group, Institute of General Practice, Heinrich-Heine University, Düsseldorf, Germany, The prognostic effect of cardiac rehabilitation in the era of acute revascularisation and statin therapy: A systematic review and meta-analysis of randomized and non-randomized studies – The Cardiac Rehabilitation Outcome Study (CROS), **European Journal of Preventive Cardiology**, Volume 23, Issue 18, 1 December 2016, Pages 1914–1939, <https://doi.org/10.1177/2047487316671181>

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This paper reviews the evidence of the use of Cardiac Rehabilitation (CR) in the era of post statin and early interventional revascularisation for acute coronary events. It involves complex methodology in paper selection and equally complex statistics in its analysis.

The questions that the review attempts to answer are whether CR adds significant benefit to the medical follow-up of acute coronary syndrome (ACS) patients or those that have undergone coronary artery bypass grafting (CABG) in terms of repeat coronary events, re-admissions to hospital and mortality. The assumption is that normal medical follow-up without CR will allow for control of blood pressure, diabetes, lipid control and antiplatelet therapy. Whilst this may be true in the countries reviewed in this study (i.e. USA and Europe), this is unlikely to be true in Sri Lanka, particularly in the rural areas.

The data in the studies reviewed is variable. Some relate only to ACS, others to post CABG and still others to both. Additional problems are that there is only one randomised controlled trial (RCT) with the rest being either retrospective control cohort studies (rCCS) or prospective control cohort studies (pCCS).

Unfortunately, the RCT did not show benefit, perhaps, the author's say, because it is underpowered. The data for ACS showed an improvement in mortality in the pCCS studies but a more variable outcome with rCCS. Regarding post CABG, the two pCCS showed benefit in terms of mortality whilst the rCCS did not. For mixed population study groups, five rCCS and one pCCS showed improved mortality for CR while one rCCS did not.

Hospital readmission was not shown to be different in the six studies that addressed it.

Overall, therefore, the evidence base for CR is not strong because it relies on cohort studies and not RCT's. The authors conclude that the major benefit of CR in the modern era relates to its structured exercise programs.

In the Sri Lankan setting CR may achieve much more than in the west as the routine follow-up of ACS and CABG patients is fragmentary. CR can give, in addition to medical follow up, the opportunity to reinforce lifestyle changes and drug compliance as well as encourage structured exercise. Ideally, an RCT should be done to assess this.