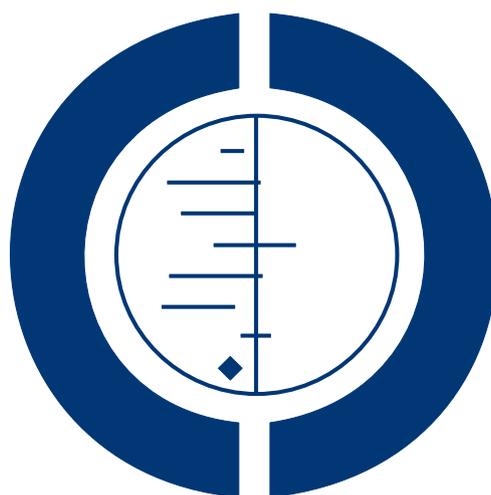


Cardiac rehabilitation for people with heart disease: an overview of Cochrane systematic reviews (Review)

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[Overview of Reviews]

Cardiac rehabilitation for people with heart disease: an overview of Cochrane systematic reviews

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ABSTRACT

Background

Overviews are a new approach to summarising evidence and synthesising results from related systematic reviews.

Objectives

To conduct an overview of Cochrane systematic reviews to provide a contemporary review of the evidence for delivery of cardiac rehabilitation, to identify opportunities for merging or splitting existing Cochrane reviews, and to identify current evidence gaps to inform new cardiac rehabilitation systematic review titles.

Methods

We searched The Cochrane Database of Systematic Reviews (2014, Issue 10) to identify systematic reviews that addressed the objectives of this overview. We assessed the quality of included reviews using the Revised Assessment of Multiple Systematic Reviews (R-AMSTAR) measurement tool and the quality of the evidence for reported outcomes using the GRADE framework. The focus of the data presentation was descriptive with detailed tabular presentations of review level and trial level characteristics and results.

Main results

We found six Cochrane systematic reviews and judged them to be of high methodological quality. They included 148 randomised controlled trials (RCTs) in 98,093 participants. Compared with usual care alone, the addition of exercise-based cardiac rehabilitation in low-risk people after myocardial infarction or percutaneous coronary intervention or with heart failure appeared to have no impact on mortality, but did reduce hospital admissions and improved health-related quality of life. Psychological- and education-based interventions alone appeared to have little or no impact on mortality or morbidity but may have improved health-related quality of life. Home- and centre-based programmes were equally effective in improving quality of life outcomes at similar healthcare costs. Selected interventions can increase the uptake of cardiac rehabilitation programmes whilst there is currently only weak evidence to support interventions that improve adherence to cardiac rehabilitation programmes. The quality of the primary RCTs in the included systematic reviews was variable, and limitations in the methodological quality of the RCTs led to downgrading of the quality of the evidence, which varied widely by review and by outcome.

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Authors' conclusions

Exercise-based cardiac rehabilitation is an effective and safe therapy to be used in the management of clinically stable people following myocardial infarction or percutaneous coronary intervention or who have heart failure. Future RCTs of cardiac rehabilitation need to improve their reporting methods and reflect the real world practice better including the recruitment of higher risk people and consideration of contemporary models of cardiac rehabilitation delivery, and identify effective interventions for enhancing adherence to rehabilitation.

PLAIN LANGUAGE SUMMARY

Participation in rehabilitation programmes that include regular exercise, can improve the quality of life for people with heart disease

Background

Cardiac rehabilitation (CR) seeks to improve the function, health-related quality of life and well-being of people with heart disease through a combination of activities, in particular exercise training alongside educational and psychological support. Since the mid-2000s, the number of published Cochrane reviews has grown to six systematic reviews/meta-analyses of CR. These reviews assessed the impact of CR on different types of heart disease (e.g. following a heart attack, heart surgery or heart failure) or different ways of providing CR (e.g. in a hospital- or home-based setting, exercise only programmes or exercise in combination with an educational or psychological intervention or both). The aim of the overview was to review the current CR Cochrane reviews to provide a 'friendly front end' to this 'portfolio' of reviews.

Study characteristics

We searched for Cochrane reviews that analysed the data from randomised controlled trials (RCT; experiments that randomly allocate participants to one of two or more treatment groups), which looked at the effectiveness of CR in adults with heart disease and compared patient outcomes with a no-exercise control group. This overview summarised the findings from these reviews.

Key results

We found six high-quality Cochrane reviews that included 148 RCTs in 98,093 people who primarily had experienced a heart attack, had undergone cardiac surgery or had chronic heart failure. The findings of this overview showed important benefits of CR participation that included a reduction in the risk of hospital admissions, as well as improvements in health-related quality of life compared with not undertaking rehabilitation.

Quality of the evidence

The quality of the RCTs in the included systematic reviews was variable, and limitations in their methodological quality led to downgrading of the quality of the evidence, which varied widely by review and outcome. We make the following recommendations for the future conduct and reporting of systematic reviews of CR.

- The scope of CR reviews needs to reflect current guidelines that recommend that CR should be based on an individually prescribed programme of exercise training with appropriate co-interventions.
- Future CR reviews need to explore the complexity of CR using appropriate approaches to explore the association between intervention characteristics and outcomes across trials.
- Future Cochrane CR reviews need to standardise their methods and reporting.